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# The differential identity activation & integration Mechanism (DIAIM): A model linking female businesspersons' identity integration and identity activation to negotiation

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The Differential Identity Activation & Integration Mechanism (DIAIM): A Model  
Linking Female Businesspersons' Identity Integration and Identity Activation to  
Negotiation

Yi Wen Tan

Singapore Management University  
2017

The Differential Identity Activation & Integration Mechanism (DIAIM): A Model  
Linking Female Businesspersons' Identity Integration and Identity Activation to  
Negotiation

By  
Yi Wen Tan

Submitted to the School of Social Sciences in partial fulfillment of the  
requirements for the Degree of Doctor of Philosophy in Psychology

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2017

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The Differential Identity Activation & Integration Mechanism: A Model linking  
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Negotiation  
Performance

YI WEN TAN

**Abstract**

Women play an important role in business management (female businesspersons) but yet they face constraints in the workplace, such as in negotiations. As female businesspersons seem to be facing seemingly conflicting gender and business identities, the level of the integration between these identities, as captured by the construct gender-professional identity integration (G-PII), can be a critical factor that influences female businesspersons in negotiations. It is expected that the level of G-PII influences female businesspersons' negotiation behaviors when their different identities (i.e., female identity, business identity or dual identities) are activated. Hence, a DIAIM model that depicts how female businesspersons with different levels of G-PII may react to single versus dual identity primes behave is proposed. It is then applied to study female businesspersons in mixed-motive negotiations. A pilot study was conducted to develop an identity priming task for female businesspersons' identity frame switching. Results of the pilot study showed that female businesspersons with high G-PII exhibited a reversed assimilation effect while low G-PIIs exhibited a reversed contrast effect. In the main study, the propositions in the DIAIM were tested on female businesspersons' negotiation behaviors. Results showed that identity cues moderated female businesspersons' G-PII to affect their competition and personal negotiation outcomes, hence it provided some support to the DIAIM model. Overall, this research went beyond what past research had found on how

people's single identity activation and provided some evidence for the simultaneous activation of multiple identities.

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## Chapter 1: Introduction

How do women in management fare in business negotiations? This question is an important one as we see that women have an increasingly important role in business management. The proportion of women in management and administrative positions in Singapore in 2014 was only 35%, and this percentage is much lower than the proportion of women (44%) in the labor force (Ministry of Manpower, 2015). This signals a gender inequality in business management occupations. The importance of having more women in business management can be seen from an article from the Economist (*"The costs of sexism: Girl power"*, 2015), which points out that companies with more females on their boards have higher profits than companies with no women on their boards. These statistics indicate that the role of women in business management positions should not be slighted.

At the same time, women in management seem to face difficulties fulfilling their roles at the management levels in the workplace, particularly in negotiations which take up a significant percentage (20%) of managers' time at work (Byrnes, 1987; King, 1981; Wall Jr. & Blum, 1991). Various research seems to suggest that women are constrained in negotiations as compared to men (e.g., Kray, Galinsky & Thompson, 2002; Neu, Graham & Gilly, 1988). For example, there is a widely held stereotypic belief that women are less effective as negotiators than men (Kray et al., 2002). A direct examination of the sex differences in negotiation performance found that women did actually perform more poorly than men in a mixed-motive negotiation (Neu et al., 1988). In a Harvard Business Review article, Bowles (2014) argued that women are less



likely to negotiate their job offers as they will face a backlash if they do so, such that people will be less likely to work with women who negotiate for pay.

More importantly, it is also true that the ability to negotiate is fundamental in people's advancement in their positions and career (Stuhlmacher & Walters, 1999). Hence, women's constraints in negotiations may be the reason for their lower opportunities in the workplace than men (e.g. Burke & MacDermid, 1996; Ibarra, 1993; Tharenou, 1999; Valian, 1998), even though females seem to be comparable with their male counterparts at the management levels in terms of skills, education and training of employees at the management levels (Kawakami, White, & Langer, 2000). Women seem to advance careers more slowly (Tharenou, 1999; Valian, 1998), have restricted access to informal interaction networks (Ibarra, 1993), and hold fewer leadership positions than men (Burke & MacDermid, 1996). This further suggests that it is worthwhile to investigate the factors that influence women's negotiation behaviors and performance in the workplace, so that their negotiation performance can be enhanced to improve their outcomes in the workplace.

Hence, the focus of this paper was to examine the factors that will influence the negotiation behaviors of women in the workplace, especially those in business management (also known as female businesspersons). Specifically, the focus in this paper would be on cooperation and competition in negotiations as these two are the dominant distinctive strategies used in negotiations (Forgas, 1998), and much research has been done in this area. However, as I would review in the following section, the results for sex differences in cooperation and competition in conflicts and negotiations have been inconclusive (e.g., Bedell & Sistruck, 1973; Ferguson & Schmitt, 1988; Major & Adams, 1983). I would

propose that the conflicting results found for sex differences in cooperation and competition is due to the lack of consideration that male and female businesspersons have a business identity on top of their gender identity. More importantly, the perceived compatibility between the business identity and the gender identities for these male and female businesspersons is crucial. This brings out the importance in examining the construct of gender-professional identity integration, which captures people's perceptions of how their gender and professional identities are compatible or oppositional.

Based on this argument, a model would be proposed to see how gender-professional identity integration influences female businesspersons' cooperative and competitive behaviors in negotiations. More importantly, there would be an examination of how gender-professional identity integration exerts its influence on female businesspersons when their identities are activated by two different mechanisms, frame switching and simultaneous activation (e.g., Benet-Martinez, Leu, Lee & Morris, 2002; Cheng, Sanchez-Burks & Lee, 2008; Chiu & Cheng, 2007; Hong, Morris, Chiu & Benet-Martinez, 2000). A relatively new construct, coopetition, which is the simultaneous use of both cooperation and competition (e.g., Bengtsson, Eriksson & Wincent, 2010; Lin, Wang, Tsai & Hsu, 2010; Luo, Slotegraaf & Pan, 2006), would also be included in the model as it seems to play an important role in most negotiations that have integrative potential (i.e., mixed motive; e.g., Barry & Friedman, 1998; Pruitt, 1983; Walton & McKersie, 1965). This would be further elaborated during the conceptualization of the model. After the development of the model, the empirical study proposed to test the model would be described in detail.

## **Sex Differences for Cooperation and Competition in Negotiations**

As mentioned earlier, research seems to suggest that women are constrained in negotiations as compared to men (e.g., Kray et al., 2002; Neu et al., 1988). Much of the literature on sex differences in negotiations focused on cooperation and competition (e.g. Bedell & Sistruck, 1973; Ferguson & Schmitt, 1988; Major & Adams, 1983), as these two are the dominant distinctive strategies used in negotiations (Forgas, 1998). Regardless of whether competitiveness or cooperativeness brings about a better outcome in negotiations, there seems to be conflicting results for the presence of sex differences in cooperative and competitive behaviors, as can be seen in the literature review below. The literature review below would cover literature in the area of conflict resolution in general as it is closely associated to the area of negotiations.

There are mixed findings for the research on sex differences in cooperation and competition in conflict management and negotiations. Some researchers found evidence that men are generally more competitive than women and that women are typically more cooperative than men in conflicts and negotiations (e.g., Barron, 2003; Conrath, 1972; Eckel, Oliveira & Grossman, 2008; Kaman & Hartel, 1994; Kimmel, Pruitt, Magenau, Konar-Goldband & Carnevale, 1980; Major & Adams, 1983; Nadler & Nadler, 1985; Pruitt, Carnevale, Forcey & Van Slyck, 1986; Walters, Stuhlmacher & Meyer, 1998). An examination of stereotypic views of men and women suggests that men indeed tend to be the tougher and more competitive negotiators whereas women are the cooperative and accommodating negotiators (Pruitt et al., 1986; Walters et al., 1998), but the sex difference seems to be small (Walters et al., 1998). More aggressive first offers are considered an indicator of competitive behavior and men were found to make

such aggressive first offers than women (Barron, 2003; Nadler & Nadler, 1985). In addition, Kimmel, et al. (1980) revealed that women engaged in less distributive behaviors than men in a mixed-motive negotiation, which are largely competitive in nature, which included using threats and derogating the other negotiation counterpart's status or power. Furthermore, women seemed to see a narrower bargaining zone than men, such that they set lower resistance and target points for themselves, and they also estimated that the opposing negotiation partner would have a more aggressive resistance point that was against their favor (Kaman & Hartel, 1994). At the same time, a review of studies by empirical economists involving dictator games (i.e., where one player unilaterally decides how a fixed amount of money should be divided between two players) and ultimatum games (i.e., where one player offers a proposal for division of a fixed amount of money and if proposal is rejected by the other player, both players receive nothing) concluded that women tend to ask for less and also accept less in these games (Eckel et al., 2008). Women were also found to allocate rewards more equally than men did (Eckel et al., 2008; Major & Adams, 1983), even though the two sexes were similar in their degree of interpersonal orientation (Major & Adams, 1983). This pattern of behaviors may be due to gender differences in the perceptions of the nature of conflicts of interests. For instance, men were found to describe the prisoners' dilemma game, a task with inherent conflicts of interest, as more competitive than women (Caldwell, 1976).

On the other hand, there are also studies that proposed the reverse pattern of cooperative and competitive behaviors for the sexes, such that women were more competitive and less cooperative than men, and this pattern of results seem to be prevalent in studies using variants of prisoners' dilemma games (e.g., Bedell

& Sistruck, 1973; Hottes & Kahn, 1974; Kahn, Hottes & Davis, 1971; Oskamp & Pearlman, 1965; Rapoport & Chammah, 1965). Specifically, these studies found that male dyads chose the option to cooperate more than female dyads in these games. It is worthy to note that while some of these studies that examined mixed-sex dyads also revealed that women were more cooperative in a mixed-sex dyad than in a same-sex dyad, women's level of cooperation in a mixed-sex dyad was still lower than men's levels of cooperation in general (Bedell & Sistruck, 1973; Rapoport & Chammah, 1965).

Furthermore, there were also null findings for sex differences in competitive and cooperative tendencies (e.g. Balliet, Li, Macfarlan & Van Vugt, 2011; Rubin & Brown, 1975; Wall & Blum, 1991; Watson & Hoffman, 1996). In terms of social dilemmas, which are general situations where two or more individuals interact with each other to determine a behavioral option that results in a beneficial outcome for themselves vs the collective (Balliet et al., 2011; Dawes, 1980; Kollock, 1998; Komorita & Parks, 1994), a meta-analysis has shown that there is no overall gender difference in cooperation (Balliet et al., 2011). A review of studies investigating sex differences in cooperation in bargaining and negotiations by Rubin and Brown (1975) documented twenty-one studies that concluded that men behaved more cooperatively than women, twenty-seven studies that concluded that women behaved more cooperatively than men, and twenty studies that found no sex differences in cooperation. In the paper by Watson and Hoffman (1996) where participants participated in an integrative negotiation, it was found that the genders do not differ in cooperation, with the behaviors "placates" and "discloses" as proxies, as well as competition, with the behaviors "pleads", "argues", "bullies" and "won't cooperate" as proxies.

The mixed findings for sex differences in competitive and cooperative behaviors in conflict situations and negotiations suggest that there may be other factors influencing the relationship between sex and cooperative/competitive behaviors in conflict situations and negotiations. For example, in the meta-analysis on cooperation in social dilemmas mentioned earlier, it was found that the relationship between sex and cooperation is moderated by various aspects of social context such as the sex composition of dyads in the interaction (Balliet et al., 2011). Specifically, men are more cooperative than women in a same-sex dyad, but women are more cooperative than men in mixed-sex dyads. In addition, Walters et al. (1998) established that women are less competitive than men especially when negotiators can engage in greater communication. Furthermore, the factor of “diagnosticity of a negotiation task” (i.e., whether a negotiation task was indicative of one’s negotiation ability) moderates the sex difference in cooperative and competitive behaviors in negotiations (Kray, Thompson & Galinsky, 2001). Specifically, it was found that when a negotiation task was indicated as diagnostic of one’s negotiation ability, women were less extreme in their opening offers than men. However, when the negotiation task was not indicated as diagnostic of one’s negotiation ability, the sex difference disappeared. Another moderating factor that may affect the sex difference in cooperative and competitive behaviors in negotiations is that of whether negotiators negotiate for themselves or on behalf of others (Amanatullah & Morris, 2010). The underlying psychological mechanism was fear of backlash from incongruity of assertive behaviors with gender roles, such that when women negotiate for themselves (vs. others), assertive behaviors are seen as incongruent (vs. congruent) with the communal prescription of their gender role. Hence, when women negotiate for

themselves, they may be unable to bargain assertively and successfully as they are afraid of the backlash. Conversely, when women negotiate on behalf of others, the fear of backlash is less and hence, they may be better able to bargain assertively and successfully.

In a nutshell, the literature review of sex differences in competitive and cooperative behaviors in conflict situations and negotiations reveal conflicting findings, and this may be due to the presence of other factors that influence the sex differences. Understanding the factors that have an influence on the sex differences in competitive and cooperative behaviors in negotiations can also then provide insights on how negotiation behaviors of women in the workplace may be influenced and enhanced accordingly. One such factor that have received considerably less attention in the area of negotiations is that of how the gender identity of negotiators may or may not be congruent with their professional identity in the workplace, as people in the workplace hold a professional identity on top of their gender identity, which may influence their behaviors and outcomes in the workplace in general.

### **Males' and Females' Identities in the Workplace**

To further illuminate the reasons for the mixed findings for sex differences in cooperation and competition in conflicts and negotiations, it may be worthwhile to first consider men's and women's social identities that they may possess on top of their gender identity in the workplace. This is particularly important as men and women may hold social identities associated with their work by virtue of being in their organizations (Ashforth & Mael, 1989). In addition, it may also be crucial to determine if the dynamics between women's social identities in the workplace are different from that of men's.

Men and women in the workplace typically have two salient social identities, and they are the gender and professional identities. The gender identity is salient as it is easily observable and the professional identity is salient due to its centrality in the workplace. Even though it seems that men and women have the same types of identities (i.e., gender and professional), the nature of their gender identities are different (i.e., male vs female). One aspect of social identities that may illustrate how men's and women's gender identities are different is that of expectations associated with the identities (Stets & Burke, 2000). While women are generally expected to be tactful, gentle and quiet, men are generally expected to be aggressive and independent (Schein, 1973).

More importantly, the differences between the male and female identities imply that they may have different dynamics with the professional identity. Specifically, men and women's gender identities may have different levels of congruence with their professional identity. For example, people in business management are expected to be emotionally stable, aggressive, self-reliant, understanding, helpful, etc. (Schein, 1973). While some of these perceived characteristics of business managers have been found to resemble perceived characteristics of men and others have been found to resemble perceived characteristics of women, only the former is significant and the latter is not. In other words, a business management identity seems to be more congruent with a men's gender identity than a women's gender identity.

Since the perceived compatibility of the female and professional identities is different from that of the male and professional identity, there is significance in examining how males and females manage their dual gender and professional identities in the workplace so as to aid the investigation of the factors that



influence men's and women's cooperation and competition in workplace negotiations. To do so, the construct of identity integration, which captures the individual difference of level of integration between their multiple social identities, would be examined in the next section. Thereafter, I would introduce the construct of gender-professional identity integration, which can be specifically applied to our topic of gender and professional identities.

### **Identity Integration**

Past research on identity integration can help shed some light on how males and females manage their dual gender and professional identities in the workplace (please see Cheng et al., 2014 for a review). This area of research mainly started from examining cultural identities as globalization has caused a large number of people to take on multiple cultural identities. Hence, a review of the literature on multiculturalism and how multiculturals manage their multiple identities is critical to our understanding of the dynamics between gender and professional identities in the workplace.

Based on the popular acculturation framework by Berry (1990), immigrants and ethnic minorities have two issues to deal with: (a) to retain identification with the culture or origin or the ethnic culture, and/or (b) to identify with the mainstream or dominant culture. Based on these two issues, four consequences can result: (i) marginalization (low identification with both cultures), (ii) assimilation (identification with the host culture), (iii) separation (identification with the ethnic culture), or (iv) integration (identification with both cultures). Immigrants and ethnic minorities who manage to integrate the ethnic and host cultures together and have high identification with both cultures are then considered biculturals.

Going beyond this framework, Benet-Martinez and colleagues (e.g., Benet-Martinez et al., 2002; Haritatos & Benet-Martinez, 2002; Hong et al., 2000) explored individual differences among people who manage to integrate their multiple cultural identities (i.e. have high identification with all the cultural identities). Specifically, a construct termed identity integration (II) that captures people's perceptions of their identities as either compatible or oppositional was proposed (Benet-Martinez & Haritatos, 2005). People who can integrate their identities well together generally see their identities as compatible and are considered high identity integrators (high IIs). On the other hand, people who are unable to integrate their identities generally see their identities as opposing one another and are considered low identity integrators (low IIs). While many researchers conceptualized II as a stable individual difference (Benet-Martinez & Haritatos, 2005; Cheng et al., 2014; Sacharin et al., 2009), other researchers had shown that II can also be a psychological state such that it is malleable and can be situationally induced (Cheng & Lee, 2009; Mok & Morris, 2012a).

Referring back to the literature on cultural identity integration, researchers proposed that there are two independent components underlying the construct of II, and the two components are that of distance/blendedness and conflict/harmony (e.g., Benet-Martinez & Haritatos, 2005; Cheng & Lee, 2009; Haritatos & Benet-Martinez, 2002; Huynh, 2009). Distance or blendedness is said to be related to the perception that the identities are nonoverlapping and dissociated from one another (Benet-Martinez & Haritatos, 2005). It is also related to identity alternation (versus fusion), identity compartmentalization and perceptions of degree of similarity or difference between the cultures (Phinney & Devich-Navarro, 1997; Roccas & Brewer, 2002; Ward & Kennedy, 1993). This suggests that people with

high identity distance or low identity blendedness see their identities as different from one another and may keep their identities separate (Benet-Martinez & Hartitatos, 2005). Based on this proposition, it seems that identity distance/blendedness may result from perceptual or motivational forces, but it is still unclear which of these forces or whether a combination of these forces is a determinant of identity distance/blendedness. On the other hand, conflict or harmony is said to be related to identity confusion and role conflict (Baumister, 1986; Goode, 1960). Unlike identity distance/blendedness, identity conflict/harmony has been said to be clearly a result of affective forces as it is correlated with neuroticism and contextual stressors (Benet-Martinez & Hartitatos, 2005).

Hence, the construct of II can also be applied to the study of how men and women deal with their dual gender and professional identities in the workplace, especially for those who identify strongly with both identities. Specifically, an examination of their levels of distance/blendedness and conflict/harmony between their identities may be useful in understanding their influence in negotiations in the workplace. Following this brief introduction to the construct of II, in the next section, a description of how this construct can be applied to the study of gender and professional identities would be provided, and then a discussion about how the activation of these identities may interact with the level of gender-professional identity integration to influence behavior would follow. This discussion would serve as an important backdrop for our discussion about negotiation behaviors subsequently.

### ***Gender-Professional Identity Integration***

Applying the concept of identity integration to gender and professional identities, the construct of gender-professional identity integration (G-P-II) becomes relevant. G-P-II captures people's perceptions of how their gender and professional identities are compatible or oppositional (Cheng et al., 2008; Mok & Morris, 2012b; Sacharin, Lee & Gonzalez, 2009; Wallen, Mor & Devine, 2014). Past studies on G-P-II were interested in females in male-dominant occupations, such as female businesspersons (Sacharin et al., 2009), female engineers (Cheng et al., 2008) and female lawyers (Mok & Morris, 2012b), as well as males in female-dominant occupations, such as male nurses (Wallen et al., 2014). This is because these groups of people face seemingly conflicting gender and professional identities, and hence it seems that there is significance in looking at how the identities integrate together despite the seemingly contrasting identities.

After introducing the concepts of II in general and G-P-II specifically, a review the literature on identity activation for people with multiple social identities would be conducted. In addition, we would look at how people who vary in levels of II or G-P-II may react differently when they undergo different identity activation mechanisms. This will allow us to have an understanding of how people across levels of II will behave in different contexts so as to be able to predict their cooperative and competitive behaviors in negotiations, which is the focus of this paper.

### **Identity Activation - Frame Switching vs Simultaneous Activation**

To determine how female businesspersons' gender and professional identities influence them in negotiations in the workplace, an important psychological process that needs to be understood is the mechanism in which

people's multiple social identities get activated to influence their attitudes, cognition and behaviors. People's identities can be said to take the form of knowledge structures in memory that is an important factor in influencing their behaviors (Devine & Monteith, 1999; Forehand, Deshpande & Reed II, 2002), and people can acquire multiple of such knowledge structures (Hong et al., 2000). However, the possession of these knowledge structures does not necessitate that there is constant dependence on them (Hong et al., 2000). Whether a certain knowledge structure is brought to the fore of one's mind depends on its activation (Fiske, 1998; Forehand et al., 2002; Higgins, 1996; Hong et al., 2000).

An exploration into how identities get activated when one has multiple social identities is especially critical when the multiple social identities seem to be conflicting. This is because when the multiple social identities are not conflicting (i.e., overlapping), the activation of one identity can exert similar influence as the activation of other identities. Conversely, when the multiple social identities are conflicting and the knowledge structures are unique and non-overlapping, the influence of one set of knowledge structure related to a particular identity may be different from the influence of another set of knowledge structure related to another identity.

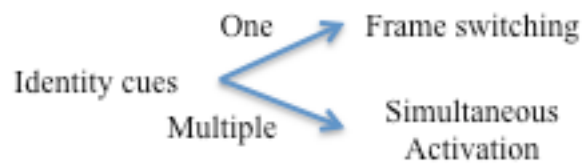
Focusing on cultural identities, Hong et al.'s (2000) work helps to elucidate the process of activation of multiple but conflicting identities. The authors asserted that even though multiculturals may hold conflicting identities and hence possess contradicting knowledge structures, they cannot guide cognition at the same time. In addition, they suggested that people move back and forth between identities, as observed by a couple of other researchers (LaFromboise, Coleman & Gerton, 1993; Phinney & Devich-Navarro, 1997). This

process has been termed as frame switching and it seems to occur when multiculturals are exposed to cues that are associated with one of the cultures. For example, exposing Chinese-Americans to American cultural icons such as the American flag should activate the American cultural knowledge structures while exposing Chinese-Americans to Chinese cultural icons such as the Chinese dragon should activate the Chinese cultural knowledge structures. Various other researchers have found evidence for the effects of frame switching (e.g., Benet-Martinez et al., 2002; Cheng, Lee & Benet-Martinez, 2006; Verkuyten & Pouliasi, 2002; 2006).

It is important to realize that the presence of evidence for the frame switching phenomena does not necessarily mean that people's multiple conflicting social identities cannot have an impact on them simultaneously, as also asserted by Hong et al. (2000). It seems plausible that people may engage in frame switching under certain circumstances, and they can also engage in simultaneous activation of their multiple identities under other circumstances, even if their identities are conflicting. Focusing on cultural identities again, a paper by Chiu and Cheng (2007) suggests that the simultaneous activation of multiple cultural knowledge structures can occur when multiple cultural icons are present. In addition, Cheng et al. (2008) proposed and found that people can indeed activate their multiple social identities simultaneously and be influenced by these multiple identities when they have higher levels of II and are exposed to cues that are associated with all the identities that they possess. People with high II are more creative in tasks that can make use of the multiple knowledge structures that are linked with their multiple activated social identities, implying that they are better able to access these knowledge structures and integrate the knowledge together for

creativity purposes. However, when only one of the identities is activated, there is no creativity effect. The effect of identity integration on simultaneous activation of multiple social identities was found for cultural identities (Study 1) as well as for gender-professional identities (Study 2), which shows that simultaneous activation of multiple social identities can occur for various types of identities.

Hence, based on the above propositions, it can be expected that the presence of a certain identity cue causes frame switching, which is the activation of the identity that is associated with that identity cue, while the presence of multiple identity cues causes simultaneous activation, which is the activation of all the identities that are associated with those identity cues. Hence, Figure 1 below illustrates these two differential identity activation mechanisms that can be experienced by people with multiple social identities, depending on how many identity cues they are presented with.



*Figure 1: Illustration of the different activation mechanisms triggered from the presence of one vs multiple identity cues*

The above discussion serves to uncover how people's multiple social identities may be activated, which is a particularly important consideration when the identities are conflicting, such as in female businesspersons. However, it is more critical to understand how activated identities influence people's attitudes, cognition and behaviors so that we can understand how the seemingly conflicting identities in female businesspersons influence their negotiation behaviors. Hence,

in the next section, the two differential identity activation mechanisms would be further examined with people's levels of II into consideration.

### **Identity Activation (Frame Switching vs. Simultaneous Activation) and Identity Integration**

In this section, the effect of identity integration and identity activation (frame switching vs simultaneous activation) on people's attitudes, cognition and behaviors would be examined.

#### ***Frame Switching and Identity Integration***

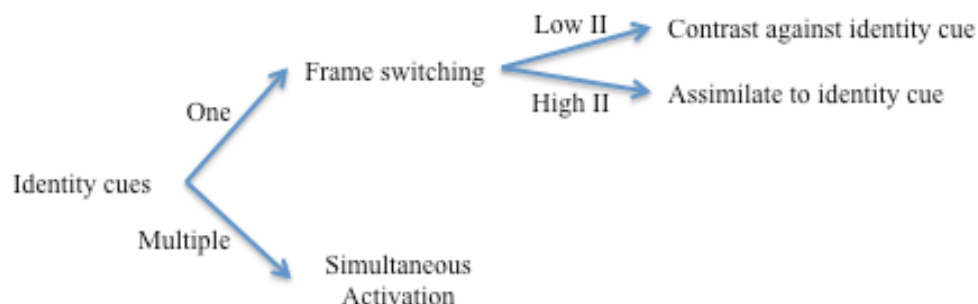
In terms of frame switching (i.e., when a specific cue related to *one* of the identities is present), past research has shown that the level of II of people with multiple social identities influences the process of frame switching (Benet-Martinez et al., 2002; Cheng et al., 2006; Mok & Morris, 2012a; 2012b; Sacharin et al., 2009). Specifically, these people with varying levels of II will react differently to the activated identity, such that they either assimilate to or contrast against the activated identity. Individuals with high II who see their identities as nonoppositional and are unconflicted about their identities will assimilate to or behave in a way that is consistent with an activated identity as the knowledge structures linked to the activated identity is triggered. Hence, for example, if a female-businessperson with high G-PII is exposed to a female (business) cue, the female-businessperson will assimilate to the female (business) cue, and exhibit higher relationship (task) orientation (Sacharin et al., 2009).

Conversely, for individuals with low II who see their identities as oppositional and chronically polarized, they will contrast against or behave in a way that is in opposition to the activated identity. This may be because they perceive the cues related to each of their identities as extremely valenced and are



hypervigilant towards the identity cues (Benet-Martinez et al., 2002; Phinney & Devich-Navarro, 1997; Sussman, 2000; Vivero & Jenkins, 1999), and hence will exhibit psychological reactance to the cues present (Benet-Martinez & Haritatos, 2005; Cheng et al., 2006; Mok & Morris, 2009). Even though a certain cue (e.g., female) activates its related identity (e.g., female identity) initially, as the knowledge structures of multi-identity individuals (e.g., female businesspersons) are linked together, the initial activation of the identity (e.g., female) can spread to another (e.g., business identity). Hence, for example, if a female (business) cue is exposed to a female-businessperson with low G-P-II, the female-businessperson will contrast against the female (business) cue/identity, and the female-businessperson will behave in alignment to the business (female) identity instead, such that she will show higher task (relationship) orientation (Sacharin et al., 2009).

The mechanism of the influence of II on frame switching is as illustrated in Figure 2 below. Evidence for this interactive effect between G-P-II and frame switching was found by Sacharin et al. (2009) for female businesspersons' task/relationship orientation as well as by Mok and Morris (2012b) for female lawyers' attentional focus.



*Figure 2: Illustration of the consequences as a result of the influence of II on frame switching*

### ***Simultaneous Activation and Identity Integration***

For simultaneous activation, it was mentioned earlier that the level of II of people with multiple social identities can also influence the process of simultaneous activation (i.e., when specific cues related to multiple identities are present) (Cheng et al., 2008). Cheng and colleagues proposed and found that people can indeed activate their multiple social identities simultaneously and be influenced by these multiple identities when they have higher levels of II and are exposed to cues that are associated with multiple the identities that they possess. In other words, this means that simultaneous activation is more likely to occur for those with higher levels of II. Hence, for example, if both female and business cues are exposed to a female-businessperson with high G-P-II, the female-businessperson will assimilate to both the female and business cues.

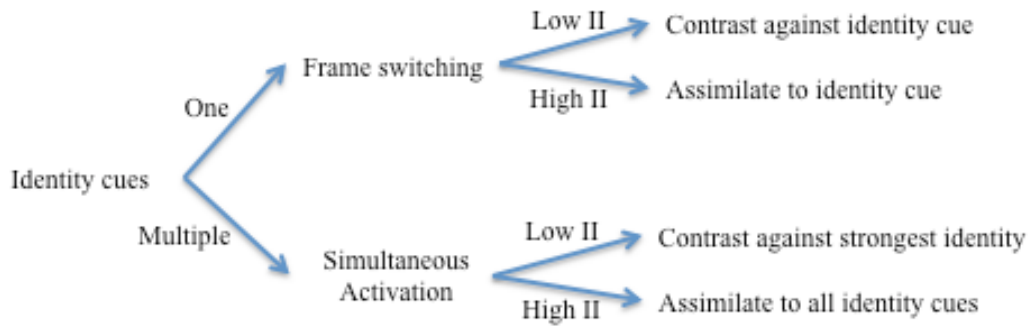
However, it is unclear what are the psychological mechanisms underlying the assimilation of female businesspersons with high G-P-II to both female and business cues when both of these cues are presented to them. It can be speculated that female businesspersons with high G-P-II have compatible identities (Padilla, 1994; Phinney & Devich-Navarro, 1997; Rotheram-Borus, 1993), and hence they do not find any difficulty using either of the identities to guide them in their behaviors. As they also do not see the identities as mutually exclusive, they may find that they can switch freely and quickly between the use of their female and business identities. Hence, in a given situation, they may be able to use both their identities.

Considering that people with low II between their identities often feel that they should choose between one of the identities, it is unlikely that they are able to behave in reaction to their multiple identities simultaneously even though these

multiple identities are activated concurrently. People with low II may feel that the feelings, cognition and behaviors associated with the activated multiple identities are conflicting and hence will choose to engage in a certain set of feelings, cognition and behaviors that is linked to one of the identities only. Hence, the main question here is in determining which of the identities that will be of influence to those with low II.

People in general will be more influenced by the identity that is most accessible to them, which is the one that is higher in strength as they are more valued and important (Forehand et al., 2002; Hogg & Terry, 2001); however, people with low II are unlikely to behave in such a way due to their high identity conflict, which has associations with psychological reactance (Benet-Martinez et al., 2002; Cheng & Lee, 2009; Mok & Morris, 2009). Specifically, it can be expected that in this situation, people with low II will display psychological reactance against the use of the stronger identity in a way that is similar to the contrast effect that low IIs experience during frame switching. The contrast effect against the stronger identity may be a result of protection of the weaker and threatened identity. Hence, for example, if both female and business cues are exposed to a female-businessperson with low G-P II, the female-businessperson will contrast against the female (business) identity if the female (business) identity is the stronger identity, and the female-businessperson will behave in alignment to the business (female) identity instead.

Based on the propositions above, a differential identity activation and integration mechanism (DIAIM) framework is proposed, as illustrated in Figure 3 below, which shows the mechanism of the influence of II on the socio-cognitive mechanisms of frame switching vs simultaneous activation.



*Figure 3: The Differential Identity Activation & Integration Mechanism (DIAIM); Illustration of the different consequences as a result of the influence of II on the two identity activation mechanisms (frame switching vs simultaneous activation)*

### **Application of the DIAIM to Female Businesspersons in Negotiations**

#### ***DIAIM and Female Businesspersons in General***

Applying the DIAIM framework proposed earlier to female businesspersons, which is the population of interest in this paper, the model proposes that when female businesspersons are exposed to either a female or business cue, there is an interaction between the level of G-PII and cue – when their G-PII is high, behavior will be aligned with the cue presented and when G-PII is low, behavior will be in opposition to the cue presented. When female businesspersons are exposed to both female and business cues, there is also an interaction between the level of G-PII and the cues – when their G-PII is high, behavior will be aligned to both cues; when G-PII is low, behavior will be in opposition to the stronger of the two identities. The DIAIM framework is revised as seen below:

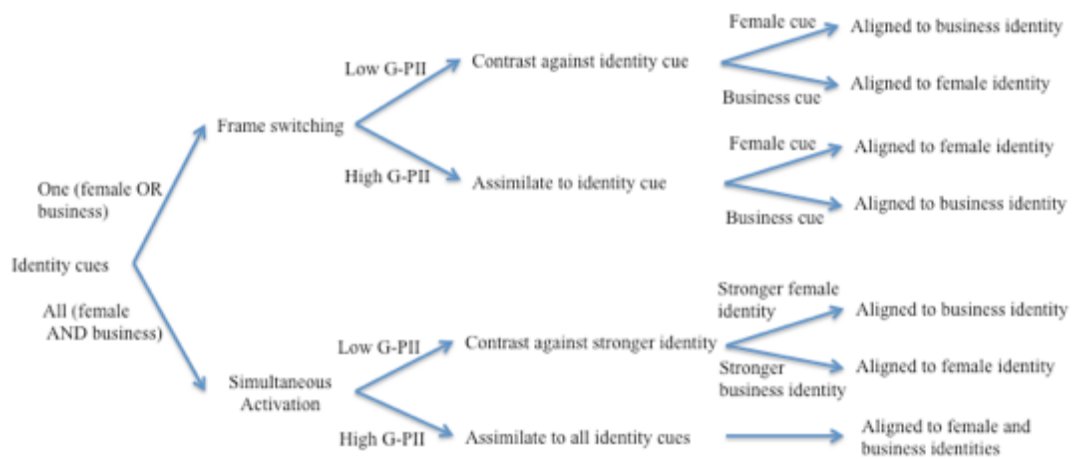


Figure 4: DIAIM as applied to Female Businesspersons

### ***DIAIM and Female Businesspersons' Cooperative and/or Competitive Behaviors***

Since the aim of this paper is to understand female businesspersons' cooperative and competitive behaviors in negotiations, it is critical to understand how the DIAIM framework can predict when female businesspersons will engage in cooperative and/or competitive behaviors. As women are generally perceived to be cooperative based on traditional sex-role stereotypes (Kray, Reb, Galinsky & Thompson, 2004; Kray et al., 2001; Walters et al., 1998), hence we should expect that when primed with feminine cues, negotiators will be more likely to engage in cooperative behaviors in general. On the other hand, as business is associated with competition (Reynolds, Leavitt & DeCelles, 2010), therefore we should expect that when primed with business cues, negotiators will be more likely to engage in competitive behaviors in general. If both feminine cues and business cues are primed, negotiators will be more likely to engage in both cooperative and competitive behaviors in general. Although many researchers view cooperation as the opposite of competition, such that they form the two ends of a single-dimension continuum (e.g., Deutsch, 1949; Rapoport & Chammah, 1965), there

have been more researchers who recognize that cooperation and competition can be independent of each other, such that they form separate dimensions (e.g., Chen, Xie & Chang, 2011; Lado, Boyd & Hanlon, 1997; Sui & Zhao, 2003; Wang, Peng & Wu, 2008). Hence, it is possible for female businesspersons who are primed with both female and business clues to engage in both cooperative and competitive behaviors. The engagement in both cooperative and competitive behaviors is also known as coopetition (Bengtsson et al., 2010; Dagnino & Rocco, 2009; Lin et al., 2010; Luo, Slotegraaf & Pan, 2006), and I will elaborate more on this concept in the next section.

Applying the DIAIM framework to female businesspersons and specifically in the context of cooperative and competitive behaviors, we can predict whether female businesspersons will exhibit cooperative behaviors, competitive behaviors or both. Specifically, it can be predicted that when female businesspersons are exposed to female cues only, those with high G-PII will assimilate to the female cue and be cooperative, while those with low G-PII will contrast against the female cue and be competitive. When female businesspersons are exposed to business cues only, those with high G-PII will assimilate to the business cue and be competitive while those with low G-PII will contrast against the business cue and be cooperative. When female businesspersons are exposed to both female and business cues, those with high G-PII will assimilate towards both cues and be cooperative and competitive at the same time, while those with low G-PII will contrast against the identity that is greater in strength. These predictions about cooperative and/or competitive behaviors of female businesspersons are illustrated with an extension of the DIAIM framework in Figure 5 below:

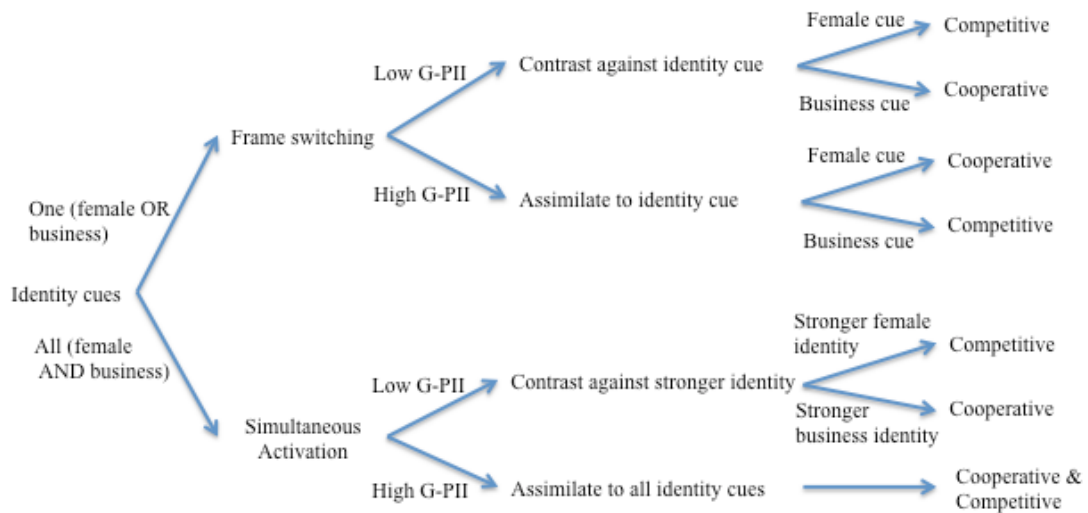


Figure 5: DIAIM as applied to Female Businesspersons for predicting cooperative and/or competitive behaviors

#### ***DIAIM and Female Businesspersons' Coopetition***

One particularly noteworthy prediction made above was that of simultaneous cooperation and competition by female businesspersons who have high G-P-II and are exposed to both female and business identity cues. As mentioned earlier, the simultaneous use of both cooperation and competition has also been termed as coopetition (Bengtsson et al., 2010; Dagnino & Rocco, 2009; Lin et al., 2010; Luo et al., 2006). Although many researchers in negotiation had pointed out the need for both cooperative/integrative and competitive/distributive behaviors in most negotiations (e.g., De Dreu, 2003; Fisher & Ury, 1981; Lax & Sebenius, 1986; Lewicki et al., 2000), there has yet been research that examines coopetition as a single dimension that encompasses the use of both cooperation and competition. The implication of examining coopetition as a single dimension will be that on one end, those who have higher coopetition suggests that they have high cooperation and high competition, and that on the other end, those who have lower coopetition suggests that they either have (a) low cooperation and low

competition, (b) high cooperation and low competition or (c) low cooperation and high competition.

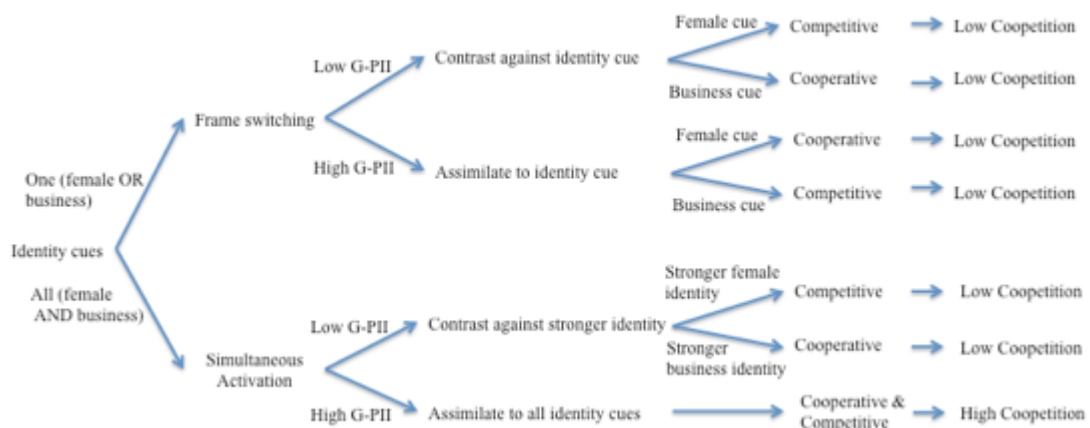
Even though there are researchers who propose that cooperation and competition are independent of each other, (e.g., Chen et al., 2011; Lado et al., 1997; Sui & Zhao, 2003; Wang et al., 2008), these two strategies can co-exist in the negotiation context (Weingart & Olekalns, 2004). For example, when a negotiator decides to be competitive and not make concessions on a particular issue, it will mean that he/she is not cooperative on that particular issue. However, he/she can decide to be cooperative on another issue. What this means for the negotiator is that he/she is switching between cooperative and competitive strategies, and when he/she is cooperative (competitive) at a certain instance, he/she cannot be competitive (cooperative) at the same instance. In consequence, this entails that cooperation and competition are not necessarily independent. In other words, people who are high on cooperation are those who switch between cooperative and competitive behaviors. On the other hand, those who are low in cooperation are those who are unable to switch between the cooperative and competitive behaviors, such that they tend to stick to one type of behavior only (i.e. cooperation only or competition only).

Tapping on the construct of cooperation also allows for a comparison of the levels of engagement in both cooperation and competition combined. For example, there may be 5 issues which people can choose to cooperate or compete on, and those who engage in solely cooperation will have 5 instances of cooperation, those who engage in solely competition will have 5 instances of competition, but those who engage in cooperation may have 3 instances of cooperation and 2 instances of competition. In this case, an examination of



differences on these groups' levels of cooperation vs competition separately will reveal that the last group of people has lower levels of cooperation as well as competition as compared to the other two groups of people. However, an examination of differences between these 3 groups of people on their levels of cooperation will be able to show that the last group of people exhibits higher levels of both cooperation and competition combined (i.e., coopetition) than the first two groups of people.

Hence, in terms of coopetition, it can be predicted that when female businesspersons are exposed to one identity cue only, only one identity gets activated, and there will be either cooperation or competition only. Hence there is low coopetition, regardless of the type of identity cue (female or business) or the level of G-P11. Female businesspersons who are exposed to both female and business cues and have low G-P11 will assimilate to only one identity, and there will also be either cooperation or competition only. Hence, there is also low coopetition. In contrast, female businesspersons who are exposed to both female and business cues and have high G-P11 will assimilate towards both cues, and there will also both cooperation and competition. Hence, there is high coopetition for this group of female businesspersons only. As such, the D1AIM in Figure 5 regarding cooperation and competition can be revised to the one in Figure 6 below that shows the predictions about female businesspersons' levels of coopetition:



*Figure 6: DIAIM as applied to Female Businesspersons for predicting cooperation levels*

Even though there are some researchers that discuss about the merits of engaging in cooperation across different contexts, such as within organisations and across organisations, there has yet to be any theoretical framework or empirical research conducted on the construct of cooperation. Hence, this paper goes beyond contributing to the research of cooperation and competition as the conceptualisations about cooperation provided earlier also adds on to the scant research done on cooperation. The importance of examining the construct of cooperation would be further exemplified in the next section where how cooperation plays a significant role in negotiations that have integrative potential or are mixed-motive in nature will be discussed.

### ***DIAIM and Female Businesspersons' Outcomes in Mixed-Motive Negotiations***

In addition to the ability to predict female businesspersons' levels of cooperation, competition and cooperation, the DIAIM framework can be used to predict whether female businesspersons will have beneficial outcomes in negotiations, especially when the nature of the negotiation is known. Specifically, this study will look at negotiations that are mixed-motive or have integrative potential as this type of negotiations make up most of the negotiations (Barry &

Friedman, 1998; De Dreu, 2003; Pruitt, 1983; Tinsley, O'Connor & Sullivan, 2002; Walton & McKersie, 1965). This means that they are not zero-sum or fixed pie situations where negotiators' interests are not totally compatible or totally opposed, and hence, negotiators can all benefit. More specifically, even though the terms mixed-motive and integrative are sometimes used interchangeably, mixed-motive negotiations are not purely integrative, meaning that they have both integrative (win-win, non-zero-sum) and distributive (win-lose, zero-sum) aspects, and the use of the term "integrative negotiations" rarely refer to negotiations that are purely integrative (Barsness & Bhappu, 2004).

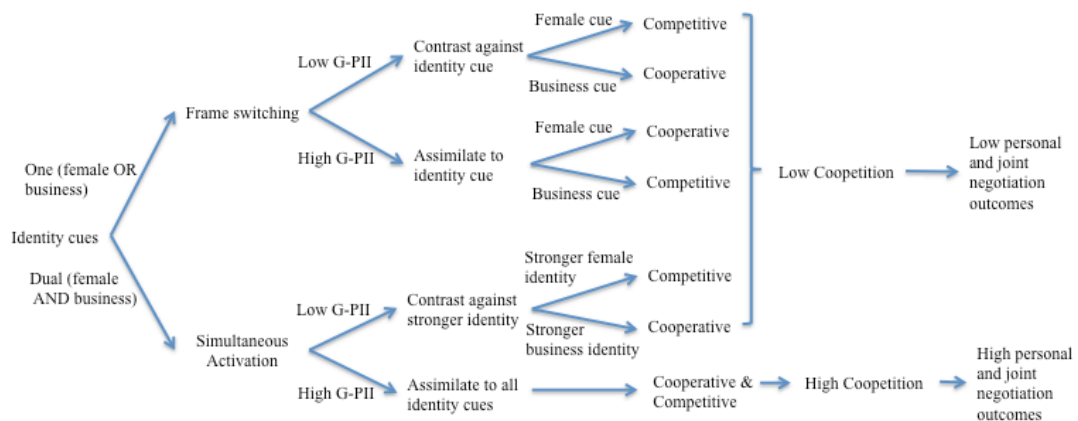
As most negotiations are mixed-motive, it has been said that negotiators will need to engage in both integrative, value-creating cooperative behaviors as well as distributive, value-claiming competitive behaviors (i.e., coopetition) to attain mutually beneficial solutions to the negotiations (Beersma, Harinck & Gerts, 2003; Canary & Spitzberg, 1987; De Dreu, 2003; De Dreu, Weingart & Kwon, 2000; Fisher & Ury, 1981; Lax & Sebenius, 1986; Olekalns & Weingart, 2008; Pruitt, Magenau, Konar-Goldband & Carnevale, 1980; Schei, Rognes & Shapiro, 2011; Wall & Nolan, 1986). While distributive behaviors include the use of bluffs, coercion, threats and aggression (Beersma et al., 2003; Donohue & Roberto, 1996), integrative behaviors include the use of offering disclosure, accommodation, expressing understanding and information exchange (Canary & Spitzberg, 1987; Lee, Brett & Park, 2012; Pruitt, 1981; Weingart, Hyder & Prietula, 1996).

Researchers have pointed out that the advantage in using both strategies is in creating value and expanding the resource pie using cooperative or integrative strategies, and then claiming value from the expanded pool of resources to ensure

personally satisfactory outcomes using competitive or distributive strategies (Adair, Weingart & Brett, 2007; Olekalns & Weingart, 2008). The use of both distributive and integrative strategies in negotiations has indeed been found to lead to satisfactory agreements or to maximize negotiators' outcomes (Olekalns & Smith, 2000; Pruitt, 1981). Hence, it has been said that negotiators who engage in coopetition should have high joint performance in mixed-motive negotiations (Adair et al., 2007; Olekalns & Weingart, 2008; Kern, Brett, & Weingart, 2005).

Conversely, if negotiators are to engage either cooperative or competitive behaviors only (i.e., low coopetition), they will achieve agreements that are less than optimal in mixed-motive negotiations (Olekalns & Weingart, 2008). If negotiators were to merely employ competitive behaviors (i.e., no cooperative behaviors), they will be claiming more outcomes for themselves at the expense of the opposing negotiator. The resource pie will not be expanded as the outcomes are not maximized based on each negotiator's value of each issue involved in the negotiation. Hence, it can be expected that negotiators who engage in competitive behaviors only should have low performance in mixed-motive negotiations. At the same time, for negotiators who are to merely employ cooperative behaviors (i.e., no competitive behaviors), they will be allowing their opposing negotiator to claim more outcomes. The resource pie will also not be expanded. Instead, the opposing negotiators may be able to reap the benefits of the expanded resource pie. Since the outcomes are not maximized based on each negotiator's value of each issue involved in the negotiation, it can be expected that negotiators who engage in cooperative behaviors only should have low performance in mixed-motive negotiations.

Based on the above propositions, we can expect that female businesspersons who are exposed to different identity cues (i.e., female identity cues, business identity cues, female and business identity cues) and have different levels of G-PII will have different levels of personal and joint outcomes in mixed-motive negotiations as they engage in different levels of cooperative and competitive behaviors. Specifically, when female businesspersons are exposed to both female and business identity cues and have high G-PII, they engage in both cooperative and competitive behaviors (i.e., high coopetition), their personal and joint negotiation outcomes should be the high. However, for the other groups of female businesspersons, they engage in either cooperative or competitive behaviors only (i.e., low coopetition), they will either have low personal and joint outcomes. An illustration of these propositions is as seen in Figure 7 below:



*Figure 7: DIAIM as applied to Female Businesspersons for predicting outcomes in mixed-motive negotiations*

### **Empirical Models for Testing DIAIM**

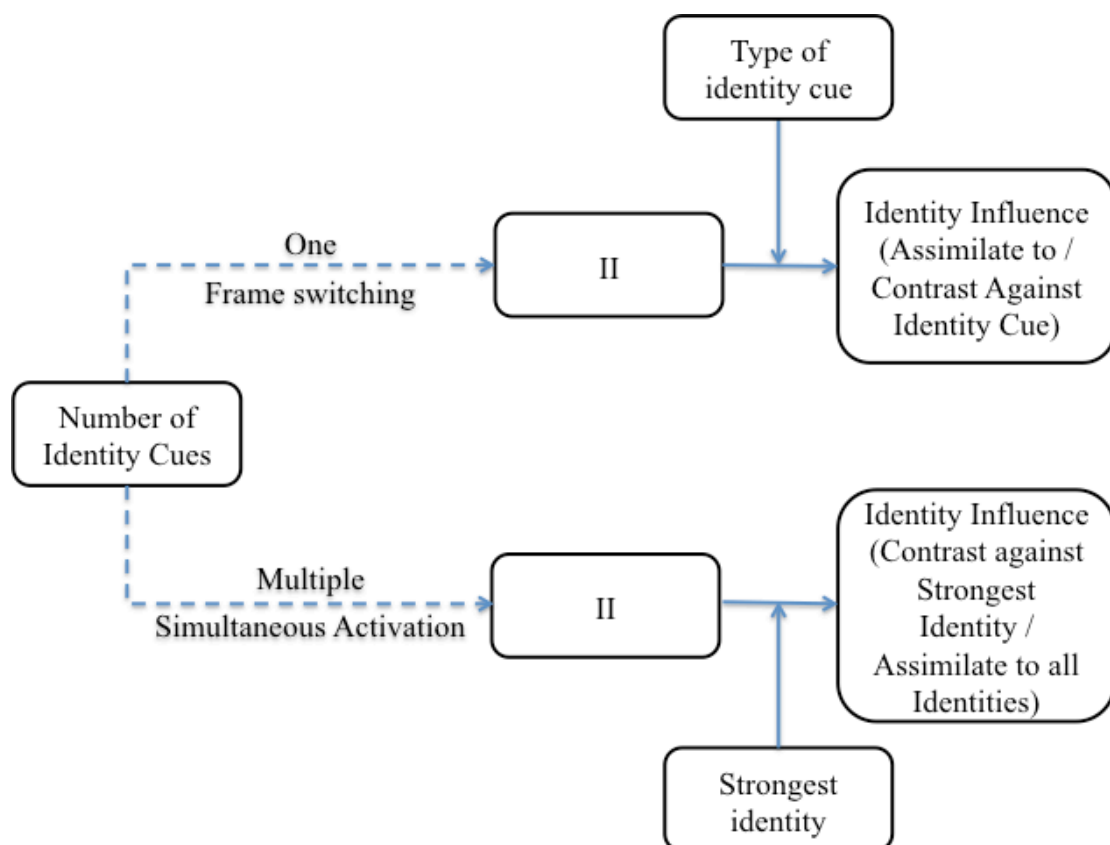
The sections above provided a comprehensive conceptualization of the DIAIM framework that allows us to have an understanding of the underlying psychological mechanisms of people with multiple identities, especially when they have different levels of integration between those identities and when they

are exposed to different numbers (one vs multiple) and type of identity cues. The DIAIM framework was first introduced in a general sense that can be applied to different types of identities and different outcomes and then it was applied to female businesspersons' cooperation, competition, coopetition and outcomes in negotiations to cater to the focus of this paper. As the illustrations of the DIAIM framework in the previous sections was done in a way to outline the specific and complex psychological processes of the interaction between identity cues, identity activation (frame switching vs simultaneous activation) and identity integration, it is not a model that allows the formation of specific hypotheses for testing the theory behind the DIAIM framework. Hence, in this section, an empirical model would be formulated for the purposes of empirical testing.

The empirical model that can be derived from the DIAIM framework can be seen in Figure 8 below. The first element of the model is the number of identity cues. When there is one identity cue present only, frame switching occurs such that the identity that is associated with the identity cue gets activated, and this suggests that frame switching interacts with the type of identity cue present. In addition, the factor of II interacts with frame switching and the type of identity cue present, such that when II is high, the identity that is activated by the identity cue exerts influence on the person, but when II is low, the other conflicting identity gets activated due to hypervigilance and psychological reactance, and that identity exerts influence on the person. This part of the model has been supported by various research studies (Benet-Martinez et al., 2002; Cheng et al., 2006; Mok & Morris, 2012a; 2012b; Sacharin et al., 2009).

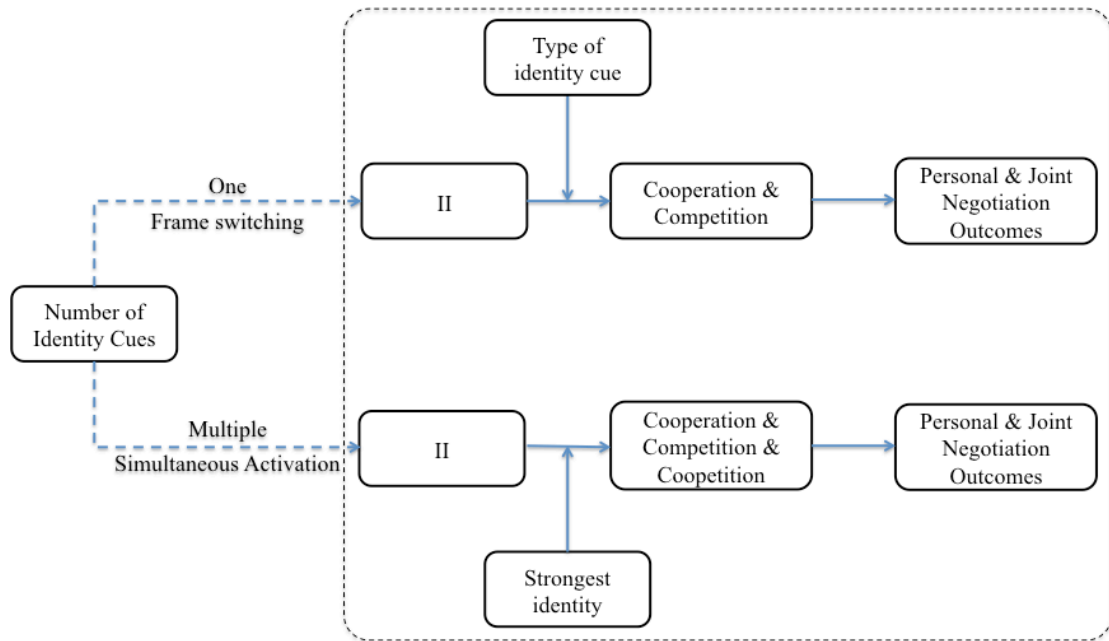
When there are multiple identity cues present, simultaneous activation occurs such that all the identities associated with the multiple identity cues get

activated. However, whether all these identities activated exert influence depends on the influence of II and the strongest identity, hence, the factor of II and strongest identity interacts with simultaneous switching to determine which identities exert influence on the person. Specifically, when II is high, all the all these identities activated exert influence on the person regardless of the strongest identity, but when II is low, only the strongest identity exerts influence on the person due to perceived conflict between the identities. For this part of the model, only the study by Cheng et al. (2008) provides preliminary evidence for the effects of high II and simultaneous activation on identity influence. There has yet to be any studies on the overall interactive effects of II, strongest identity and simultaneous activation on identity influence.



*Figure 8: The empirical model derived from DIAIM for multi-identity individuals in general*

Applying this empirical model to examine female businesspersons' cooperation, competition, coopetition and negotiation outcomes, the model is revised to the one as seen in Figure 9 below. For the empirical part of this paper, the focus was on testing the parts of the model outlined by the dotted lines in Figure 9.



*Figure 9: The empirical model derived from DIAIM for female businesspersons' cooperation, competition, coopetition and negotiation outcomes; Black dotted box denotes the scope of the model for empirical testing in this paper*

## Chapter 2: Overview of Studies

Before testing the empirical DIAIM model, a pilot test was first conducted to develop a task that would be helpful in presenting identity cues to participants, such that these identity cues would activate their identities either through frame switching or simultaneous activation. The main aspects of the empirical DIAIM model as applied to female businesspersons in negotiations were then tested in another study (i.e., Main Study). Specifically, the main study served to be an investigation of the relationship between the number of identity cues present,



female businesspersons' G-PII, the type of identity cue present and the stronger identity on their cooperation, competition, coopetition and outcomes in a mixed-motive negotiation. The hypotheses investigated would be elaborated in each of the studies described below.

### **Chapter 3: Pilot Study**

This pilot study served to develop a task that helps in the examination of the hypotheses by presenting the identity cues to participants. Past research that tried to prime female and professional identities in their investigation of G-PII, such as Mok and Morris (2012b) and Sacharin et al. (2009), were similar in that female professionals had to write an essay about what it means for them to be a woman and what it means for them to be in the profession - lawyer and businessperson respectively. The drawback of these tasks is that there was no control over the content of the essay to be written and participants can write about their positive or negative experiences, which might have affected their levels of G-PII (Cheng & Lee, 2009).

Hence, a couple of different identity priming tasks were developed to examine which of the tasks could better activate the female and business identities in question. To do so, the pilot test sought to see which identity priming tasks could best replicate the findings in Sacharin et al. (2009). Specifically, based on Sacharin et al. (2009), it was expected that G-PII would interact with type of identity cue to influence task/relationship orientation, such that high G-PIIs would exhibit the assimilation effect while low G-PIIs would exhibit the contrast effect in response to the identity cues. Below are the specific hypotheses that were tested.

*H1: There is a two-way interaction between the type of identity cue (female or business) and levels of G-PII (blendedness and harmony) in female businesspersons on their task-orientation and relationship-orientation.*

*H1a: Female businesspersons with high G-PII have lower task-orientation and higher relationship-orientation when they are presented with female identity cues than when they are presented with business identity cues.*

*H1b: Female businesspersons with low G-PII have higher task-orientation and lower relationship-orientation when they are presented with female identity cues than when they are presented with business identity cues.*

## **Method**

**Participants.** One hundred and ninety-eight female undergraduate students from Singapore Management University (SMU) who had at least one business major<sup>1</sup> (e.g., finance, marketing, strategy, etc.) were recruited via the university online subject pool system for the study. The inclusion criteria for participants were that they had to either be in the business faculty, which would automatically mean that they would have at least one business major, or in a non-business faculty but with a declared secondary business major. They were either compensated 1 course credit or \$5 in exchange for half an hour of participation in this study. Data from 14 participants were excluded from the analyses as they experienced computer errors ( $n = 4$ ), had conflicting participant identification numbers ( $n = 4$ ), managed to detect the subliminal primes ( $n = 2$ )<sup>2</sup>, or had low

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<sup>1</sup> As Sacharin et al. (2009) also used a sample of female business students found individual differences in G-PII in the sample, it provided some justification for our use of female business students for this study as well.

<sup>2</sup> One of the identity priming task is a subliminal priming task that showed words related to female and business. For these participants who were able to detect the subliminal primes, the task would be considered as ineffective, hence, the data for these participants should be removed.

identification on either their female or business identities ( $n = 4$ )<sup>3</sup>. The final sample size for analyses was one hundred and eighty four ( $M_{\text{age}} = 21.30$ ,  $SD_{\text{age}} = 1.43$ ). Out of this final sample, one hundred and thirty participants were in the business faculty while fifty four participants had a secondary business major. Out of those in the business faculty, sixty had yet to declare their majors. For the remaining participants, they either had one ( $n = 103$ ) or two business majors ( $n = 21$ ). They either majored in corporate communications ( $n = 26$ ), finance ( $n = 21$ ), strategy ( $n = 7$ ), marketing ( $n = 55$ ), operations ( $n = 12$ ) or organizational behavior and human resources ( $n = 24$ ) as their business majors. The average time since declaration of majors was 15.40 months.

**Manipulations.** Participants were randomly assigned to undergo one of the three identity cue tasks, which were the word search task ( $n = 57$ ), spot-the-difference task ( $n = 76$ ), and the subliminal priming task ( $n = 51$ ), and these tasks are described in detail below. They were also randomly assigned to be either be exposed to female identity cues ( $n = 83$ ) or to business identity cues ( $n = 101$ ).

**Procedure.** Participants' levels of G-II were assessed with a scale adapted from the one used in past bicultural II research first. They were also asked about the strength of their identities. Thereafter, they went through the identity cue task. Depending on the task condition participants were assigned to, they either went through a word search task, a spot-the-difference task or a subliminal priming task. In addition, depending on the type of identity cue condition, participants were also either presented with female identity cues or business

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<sup>3</sup> This is due to the conceptualization behind the construct of identity integration, which focuses on individuals with high identification on both the identities of concern, and not just for one of the identities (Benet-Martinez et al., 2002; Sacharin et al., 2009). The strengths of identities were measured and those who scored below the midpoint (i.e., 3) for either of the identities were removed for analyses.

identity cues. After the identity cue task, participants' task and relationship orientation were measured. They were also asked for their demographics.

**G-PII Scale (adapted from Benet-Martínez & Haritatos 2005; Huynh, 2009).** Items were adapted from BIIS-1 (Benet-Martínez & Haritatos, 2005) and BIIS-2 (Huynh, 2009). Items were reworded such that they would be applicable to the construct we are interested in examining. Items that did not make sense after rewording were discarded from the measure. There are 10 items in the blendedness/distance<sup>4</sup> subscale (Cronbach's  $\alpha = .61$ )<sup>5</sup> and 22 items in the harmony/conflict<sup>6</sup> subscale (Cronbach's  $\alpha = .93$ ). Participants rated these items on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Items included "Both my gender and business identities make me who I am." in the blendedness subscale and "I find it difficult to combine my gender and business identities" in the harmony subscale. The items in this scale are listed in Appendix 1. A confirmatory factor analysis of the G-PII scale for its two-factor model structure showed that the model did not have a satisfactory fit,  $\chi^2(463) = 2.10, p < .01$ ; CFI = .77; RMSEA = .077.<sup>7</sup>

**Strength of Identities (adapted from Brown, Condor, Matthews, Wade, & Williams, 1986; Levine & Thompson, 2004).** Participants rated the strength of their female and business identities separately. They were asked to rate the same 10-item scale twice for the two identities (i.e., once for each identity) on a 5-point scale (1=Never, 5=Very often) (Cronbach's  $\alpha_{\text{Female}} = .82$ ; Cronbach's

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<sup>4</sup> From this point forward, "blendedness" would be used to refer to this subscale to preserve the same directionality as G-PII itself.

<sup>5</sup> The low Cronbach  $\alpha$  suggests that there is a higher risk for committing a Type II error (Ritter, 2010), which suggests the possibility of failing to reject the null hypothesis. Hence, the results should be interpreted with caution.

<sup>6</sup> From this point forward, "harmony" would be used to refer to this subscale to preserve the same directionality as G-PII itself.

<sup>7</sup> The issue of the poor two-factor model fit of the G-PII scale would be further discussed in the general discussion and more details of the factor analysis would be elaborated in Appendix 12.

$\alpha_{\text{Business}} = .79$ ). Items included “I am a person who feels strong ties with other females/businesspersons” and “I am a person who identifies with being female/in business”. The items in this scale are listed in Appendix 2. Participants’ responses to each of their identities were averaged and those who had average scores lower than the mid-point (i.e., 3) for either of the identities were excluded from analyses in this study. This is due to the conceptualization behind the construct of identity integration, which focuses on individuals with high identification on the identities of concern, and not just for one of the identities (Benet-Martinez et al., 2002; Sacharin et al., 2009).

**Word Search Task.** Participants assigned to this task condition were given a 15x15 grid filled with letters, and within this grid, there were ten words hidden either horizontally or vertically within the grid. The list of words were given to participants and participants had to search for them and circle them within the grid. For the female identity cues condition, five out of the ten words presented were related to the female identity (i.e., jewellery, skirt, perfume, heels and blouse), and the remaining five words presented were unrelated to any of the gender and professional identities (i.e., bottle, watch, photo, brush and restaurant). For the business identity cues condition, five out of the ten words presented were related to the business identity (i.e., corporation, profit, client, capital, finance), and the remaining five words presented were unrelated to any of the gender and professional identities (i.e., bottle, watch, photo, brush and restaurant). The specific details of this task are provided in Appendix 3.

**Spot-the-difference Task.** Participants assigned to this task condition were given six pairs of photos, and each pair of photos was similar except for seven differences within each pair of the photos. Participants had to search for the

differences by circling them out. For the female identity cues condition, three out of the six pairs of photos presented were related to the female identity (e.g., woman doing housework) and remaining three pairs of photos presented were unrelated to any of the gender and professional identities (e.g., lake scenery). For the business identity cues condition, three out of the six pairs of photos presented were related to the business identity (e.g., financial newspaper) and remaining three pairs of photos presented were unrelated to any of the gender and professional identities. The specific details of this task are provided in Appendix 4.

**Subliminal Priming Task.** Following the methodology used by Bargh and Chartrand (2000), participants assigned to this task condition were primed with words related to the female identity or business identity subliminally. For the female identity cues condition, the words “female” and “woman” were presented to participants. For the business identity cues condition, the words “business” and “corporate” were presented to participants. In each trial, a string of X’s, the subliminal primes, and a string of B’s would appear. Participants were told that the string of X’s (e.g., XXXXXXXXXX) would appear in between the trials as an orienting cue but in fact, it acted as a mask for the primes for this task. The string of X’s would appear for 500ms, and then the primes would be presented for 23ms, and lastly, the string of X’s would appear for another 500ms again. The string of capital B’s would then appear as a cover for the subliminal priming. Participants were told to take note of how many times a small b appears within a string of capital B’s (e.g., BBBBbBB), which was presented for 300ms, and they had to indicate how many times the small b appears after every 5 trials. There were 40 of these trials in total, and out of these 40 trials, 15 trials had the small b’s. To check

for awareness of the primes, participants were asked whether they saw any words in this task during debriefing. Those who detected the primes had their data removed from analyses.

**Schein Descriptive Index (SDI; Schein, 1973).** The SDI consisted of three factors, which are relationship-orientation, task-orientation and emotional instability. For the purposes of this study, only the items that fall under the relationship-orientation (23 items, Cronbach's  $\alpha = .82$ ) and task-orientation (31 items, Cronbach's  $\alpha = .92$ ) were used. Participants were told that they would be compared to an actual female businessperson in the subsequent tasks and they were asked to think about how this female businessperson would be like and to rate each of the items in terms of how characteristic it might be applicable to the female businessperson. The items were rated on a 5-point scale (1=not characteristic, 3=neither characteristic nor uncharacteristic, 5=characteristic). Some example items include helpful, deceitful, competitive and shy. The items in this scale are listed in Appendix 5.

**Demographics.** Participants were asked to provide some demographic information about themselves, including age, ethnicity, country of origin, major and prior business experience. The specific details of the questions are provided in Appendix 6.

## **Results**

The descriptive statistics for all the measures used are presented in Table 1.

**Table 1. Descriptives of measures.**

Measure	Component	<i>M</i>	<i>SD</i>
G-PII	Blendedness	2.49	0.41
	Harmony	2.55	0.54
Strength of identities	Female	4.13	0.50
	Business	3.82	0.49
SDI	Relationship	3.60	0.37
	Orientation		
	Task Orientation	3.86	0.44

Three sets of analyses were conducted to determine if the identity cues, together with G-PII (blendedness and harmony), exerted an effect on participants to influence their task and relationship orientation, and more importantly, which priming task showed the greatest effect. The effect of each task was examined separately in different analyses. Levels of G-PII (blendedness and harmony) and the covariates (i.e., strength of gender identity and strength of business identity) were first centered for analyses and dummy codes were created for the type of identity cues presented (female or business). Hierarchical regression analyses were conducted. In the first step of the hierarchical regression analysis, the centered covariates were entered so that they could be controlled for. In the second step, the main effects of type of identity cues (dummy-coded) and the centered levels of G-PII (blendedness and harmony) were entered. In the third step, the two-way interaction term between the type of identity cues and centered levels of G-PII (blendedness and harmony) was entered.

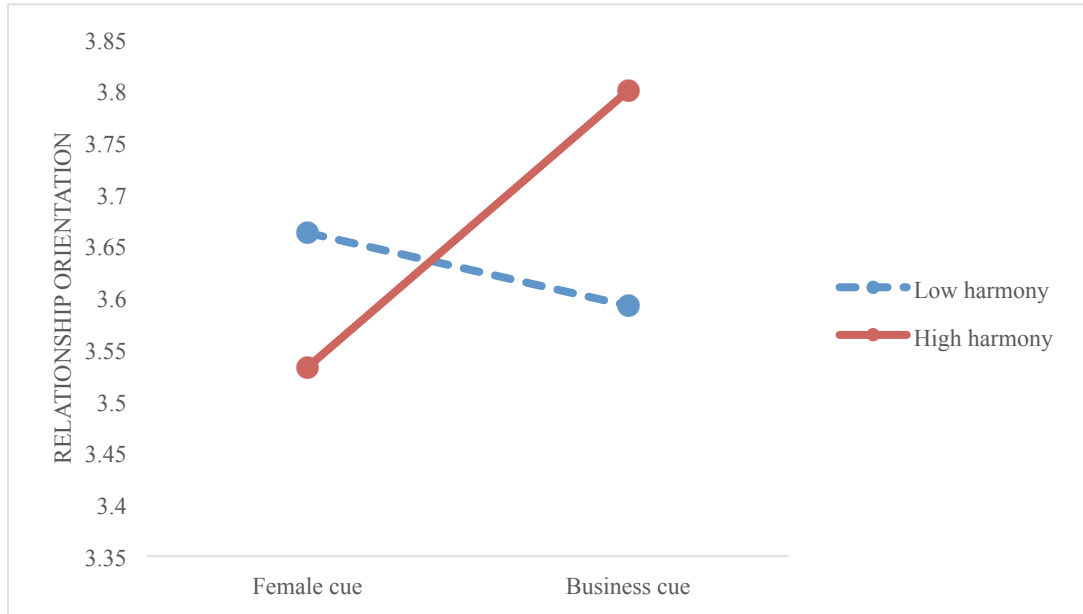


**Word Search Task.** For the dependent variable of relationship orientation, there was neither a significant interaction between type of identity cue and levels of blendedness ( $b = .25$ ,  $t(51) = 1.19$ ,  $p = .24$ ) nor between type of identity cue and levels of harmony ( $b = .25$ ,  $t(51) = 1.4$ ,  $p = .16$ ) after controlling for the strength of identities. Similarly, for the dependent variable of task orientation, there was neither a significant interaction between type of identity cue and levels of blendedness ( $b = -.09$ ,  $t(51) = -.29$ ,  $p = .77$ ) nor between type of identity cue and levels of harmony ( $b = -.04$ ,  $t(51) = -.16$ ,  $p = .88$ ) after controlling for the strength of identities.

**Spot-the-difference Task.** For the dependent variable of relationship orientation, there was a significant interaction between type of identity cue and levels of harmony ( $b = -.30$ ,  $t(70) = -2.11$ ,  $p = .04$ ) but no significant interaction between type of identity cue and levels of blendedness ( $b = -.03$ ,  $t(70) = -.17$ ,  $p = .87$ ) after controlling for the strength of identities. As for the dependent variable of task orientation, there was neither a significant interaction between type of identity cue and levels of blendedness ( $b = -.17$ ,  $t(70) = -.82$ ,  $p = .41$ ) nor between type of identity cue and levels of harmony ( $b = -.13$ ,  $t(51) = -.77$ ,  $p = .44$ ) after controlling for the strength of identities.

Simple slopes analyses for the significant interaction between type of identity cue and harmony showed that participants with high harmony were significantly lower in relationship orientation when they were faced with a female prime than when they were faced with a business prime ( $b = .27$ ,  $t(70) = 2.39$ ,  $p = .02$ ). However, even though participants with low harmony were higher in relationship orientation when they were faced with a female prime than when they were faced with a business prime, the difference was not significant ( $b = -.07$ ,

$t(70) = -.63, p = .53$ ). The pattern of results is reverse from what was being predicted as illustrated in Figure 10 and will be discussed in the next section.

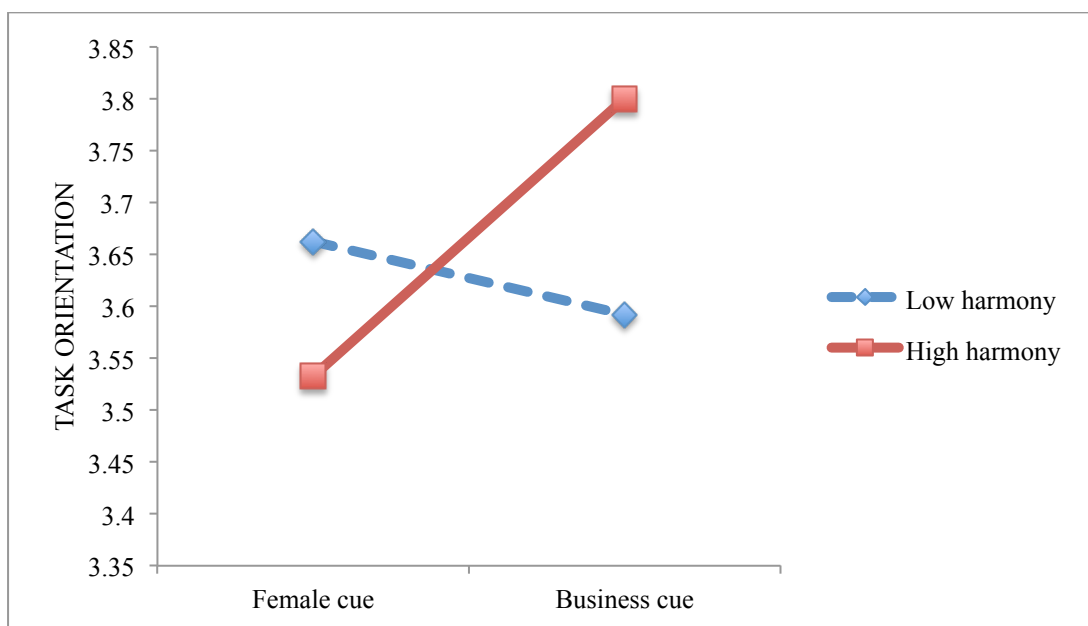


*Figure 10: Interaction between type of identity cue and harmony on relationship orientation in spot-the-difference task*

**Subliminal Priming Task.** For the dependent variable of relationship orientation, there was neither a significant interaction between type of identity cue and levels of blendedness ( $b = .47, t(45) = 1.49, p = .14$ ) nor between type of identity cue and levels of harmony ( $b = .08, t(45) = 0.45, p = .65$ ) after controlling for the strength of identities. For the dependent variable of task orientation, there was a marginally significant interaction between type of identity cue and levels of harmony ( $b = .32, t(45) = 1.77, p = .08$ ) after controlling for the strength of identities. However, there was no significant interaction between type of identity cue and levels of blendedness ( $b = -.23, t(45) = -.73, p = .47$ ).

Simple slopes analyses for the marginally significant interaction between type of identity cue and harmony showed that participants with low harmony were

marginally significantly lower in task orientation when they were faced with a female prime than when they were faced with a business prime ( $b = .29$ ,  $t(45) = 1.93$ ,  $p = .06$ ). However, even though participants with high harmony were higher in task orientation when they were faced with a female prime than when they were faced with a business prime, the difference was not significant ( $b = -.07$ ,  $t(45) = -.51$ ,  $p = .61$ ). The pattern of results is similar from what was being predicted as illustrated in Figure 11 and will be discussed in the next section.



*Figure 11: Interaction between type of identity cue and harmony on task orientation in subliminal priming task*

## Discussion

This study served to develop a suitable priming task that would help in the investigation of our main hypotheses subsequently, by attempting to see which priming task can best replicate the established assimilation and contrast effects of people with high versus low G-PII. With specific reference to Sacharin et al.'s (2009) study on female businesspersons' level of relationship and task orientation, it was expected that the pattern of results will be similar, such that high G-PIIs

(i.e., high blendedness/harmony) should have higher relationship orientation when they are presented with female identity cues than when they are presented with business identity cues (i.e., assimilation effect) but low G-PIIs (i.e., low blendedness/harmony) should have higher relationship orientation when they are presented with business identity cues than when they are presented with female identity cues (i.e., contrast effect). Out of the three priming tasks developed (i.e., word search task, spot-the-difference task and subliminal priming task), only the spot-the-difference task yielded significant results in terms of the interaction between levels of harmony and type of identity cue. The lack of results for the other tasks could be due to the small sample size. Even though the spot-the-difference task had significant findings, it was in the reverse direction from what was expected. Specifically, instead of finding an assimilation effect in participants with low harmony, these participants showed contrast against the identity cues – they had higher relationship orientation when they are presented with business identity cues than when they are presented with female identity cues.

This pattern of results that is reversed from the initial predictions could be due to the nature of the spot-the-difference task, in which the primes were pictures that can be considered stereotypic of female and business identities (e.g., doing housework and business charts). While past research on G-PII used non-stereotypic priming tasks and found the typical assimilation effect for high G-PIIs and contrast effect for low G-PIIs (Mok & Morris, 2012b; Sacharin et al., 2009), the use of these stereotypic primes in this study could have caused high and low G-PIIs to react differently to the primes. Specifically, while low G-PIIs tend to feel greater conflict between their identities than high G-PIIs in general, the presence of stereotypic primes could have caused high G-PIIs to feel more

conflicted about the association between the primes and their perceptions of their identities than low G-PIIs instead, thereby inducing a reaction to the primes that is different from how we would usually expect. This means that high G-PIIs who were exposed to the stereotypic primes might feel that the primes are not aligned with their perceptions about their identities and might display reactance against the primes, while low G-PIIs might feel that the primes were aligned with their perceptions about their identities and hence could assimilate to the primes. Indeed, some support for this argument comes from Cheng et al.'s (2006) study that found that people with low II can assimilate to the primes and people with high II can contrast against the primes, in a similar way as what was found in this pilot study. Cheng et al. (2006) suggested that high IIs may exhibit contrast effect instead of assimilation effect if they perceive a mismatch between the identity cues and their internal expectations for the identity associated with their prior experiences. This shows that the effect of primes on II may be sensitive to the nature of primes used.

It is noteworthy that while the effect for high G-PIIs in the spot-the-difference task was significant, the effect for low G-PIIs was not significant. However, it was in a similar direction as described here, and the lack of effect could be due to the small sample size. Another possible reason for the lack of effect for the low G-PIIs is that they did not perceive dissonance between the stereotypical primes and their internal identity associations unlike high G-PIIs, and hence, were not as sensitive to the stereotypical primes as the high G-PIIs. This could then lead to the lack of significant findings for the low G-PIIs.

It is also crucial to note that the subliminal priming task yielded marginally significant results and it was in the same direction from what was expected. Unlike the identity primes in the spot-the-difference task, the primes

used in the subliminal priming task were non-stereotypical, and hence it could be expected that the results in the subliminal priming task would not be in the reverse direction like the results in the spot-the difference task. This gives further support that, indeed, the nature of primes used can influence how the primes interact with G-P11 to influence behavior.

Although the spot-the-difference priming task did not support the hypotheses in terms of the directionality of the interaction effect, it was nonetheless shown to be the most effective priming task that we could subsequently use to test our main hypotheses as the use of the task yielded significant interaction effects between the type of identity primes and G-P11. In addition, even though the subliminal priming task yielded marginally significant results and was in the same direction as what was predicted, the task would not be as efficient as the spot-the-difference task in terms of detecting an effect. Moreover, the possibility of having participants who might detect the subliminal primes would result in precious data loss. Hence, the spot-the-difference task would be used as priming task for the main study. However, the prediction of results for the main study would need to be reversed from what was originally predicted under the DIAIM if the spot-the-difference priming task were to be used for the main study as it would trigger the stereotype reactance effect. This would be further elaborated under the main study. More theoretical and practical implications of this study would be discussed in greater detail in the general discussion.

#### **Chapter 4: Main Study**

This study aimed to test the main propositions in the DIAIM developed in the earlier part of this paper with the use of the spot-the-difference identity

priming task developed in the pilot test. As noted in the pilot study, the use of stereotypic primes in the spot-the-difference priming task would result in a reversal of the general predictions under the DIAIM due to the atypical feelings of conflict faced by high G-PIIs as compared to low G-PIIs in response to the primes. The reversal of predictions would be further explained in the formulation of each of the hypotheses in this study.

Specifically, five hypotheses were to be tested for the different dependent variables of interest in this paper. As can be seen from the DIAIM, cooperation and competition are the fundamental outcomes of interest in this paper and were examined first in the hypothesis 2 and 3. Specifically, hypothesis 2 would test the effects of G-P II and the type of identity cue on cooperation and competition when female businesspersons are only exposed to one identity cue. Hypothesis 3 would test the effects of G-P II and the stronger identity on cooperation and competition when female businesspersons are exposed to both their female and business identity cues. Furthermore, the DIAIM illustrated how coopetition builds upon the outcomes of cooperation and competition, and they would be examined in hypothesis 4 by looking at how the number of identity cues and G-P II would affect it. Furthermore, hypotheses 5 and 6 would be looking at personal and joint negotiation outcomes and how they would be influenced by the number of identity cues and G-P II. Specifically, this would be done by using a simulated negotiation task where participants would negotiate in dyads. The negotiation task would have a business negotiator role and a non-business negotiator role. In particular, the hypotheses would be looking specifically at those with the business negotiator role as they would represent the population of interest. Hypothesis 6 would be investigating if the interaction effects of number of identity cues and G-P II on the

two types of negotiation outcomes are mediated by coopetition. The hypotheses would be specified in greater detail below.

Hypothesis 2 would test the effects of exposure to one identity cue to female businesspersons on their cooperation and competition. Under the DIAIM, high G-PIIs who are less conflicted about their identities would assimilate to non-stereotypic cues while low G-PIIs who are more conflicted about their identities would contrast against the non-stereotypic cues. However, when stereotypic cues are used, it can be expected that high G-PIIs will experience higher level of conflict, resulting in reactance against the primes (i.e., a reversal of the typical assimilation effect). Conversely, low G-PIIs will experience lower levels of conflict, resulting in assimilation towards the primes (i.e., a reversal of the typical contrast effect). This means that participants under this hypothesis in this study would behave in a similar way as what was found in the pilot study. Hence, it was specifically predicted that:

*H2: When only one identity cue (either female or business) is present, there is a two-way interaction between the type of identity cue presented (female or business) and levels of G-PII (blendedness and harmony) in female businesspersons on their cooperation and competition.*

*H2a: When only one identity cue (either business or female) is present, female businesspersons with high G-PII have lower levels of cooperation and higher levels of competition when they are presented with female identity cues than when they are presented with business identity cues (reverse of assimilation effect).*

*H2b: When only one identity cue (either business or female) is present, female businesspersons with low G-PII have higher levels of cooperation*



*and lower levels of competition when they are presented with female identity cues than when they are presented with business identity cues (reverse of contrast effect).*

Hypothesis 3 would test the effects of exposure to dual identity cues to female businesspersons on their cooperation and competition. Under the DIAIM, high G-PIIs who are less conflicted about their identities would assimilate to non-stereotypic cues while low G-PIIs who are more conflicted about their identities would contrast against the stronger identity to protect the weaker identity. However, when stereotypic cues are used, it can be expected that high G-PIIs will experience higher level of conflict, resulting in reactance against both primes (i.e., a reversal of the typical assimilation effect). This means that participants with high G-PII would have low levels of cooperation and competition. Conversely, low G-PIIs will experience lower levels of conflict, resulting in assimilation towards both primes (i.e., a reversal of the typical contrast effect). This means that participants with low G-PII would have high levels of cooperation and competition. Hence, it was specifically predicted that:

*H3: When both female and business identity cues are present, female businesspersons with high G-PII (reverse of assimilation effect) will have lower cooperation and competition than female businesspersons with low G-PII (reverse of contrast effect).*

Hypothesis 4 would test the effects of exposure to one versus dual identity cues to female businesspersons on their cooperation. Under the initial DIAIM, it was expected that when only one identity cue is present, low and high G-PIIs will be similar in that they have low cooperation as they will only have one identity activated. Even when stereotypic primes are used, the prediction for low and high

G-PIIs will remain the same as the exposure to one identity cue will still activate one of the identities only. However, the predictions for low and high G-PIIs when dual identity cues are present will be different from the initial DIAIM. Under the initial DIAIM, it was expected that when both non-stereotypic identity cues are present, high G-PIIs will have higher coopetition than low G-PIIs as high G-PIIs can assimilate to both identity cues. However, when stereotypic cues are used, it can be expected that high G-PIIs will experience higher level of conflict, resulting in reactance against both primes (i.e., a reversal of the typical assimilation effect). This means that participants with high G-PII would have low levels of coopetition. Conversely, low G-PIIs will experience lower levels of conflict, resulting in assimilation towards both primes (i.e., a reversal of the typical contrast effect). This means that participants with low G-PII would have high levels of coopetition. Hence, it was specifically predicted that:

*H4: There is a two-way interaction between number of identity cues and the levels of G-PII (blendedness and harmony) in female businesspersons on their coopetition.*

*H4a: When both female and business identity cues are present, female businesspersons with low G-PII (reverse of contrast effect) have higher coopetition than those with high G-PII (reverse of assimilation effect) but when only one identity cue (either business or female) is present, female businesspersons will have low coopetition regardless of their levels of G-PII.*

Similar to Hypothesis 4, Hypothesis 5 would test the effects of exposure to one versus dual identity cues to female businesspersons but on their negotiation outcomes. Under the initial DIAIM, it was expected that when only one identity

cue is present, low and high G-PIIs will be similar in that they have low personal and joint negotiation outcomes as they will only have one identity activated. Even when stereotypic primes are used, the prediction for low and high G-PIIs will remain the same as the exposure to one identity cue will still activate one of the identities only. However, the predictions for low and high G-PIIs when dual identity cues are present will be different from the initial DIAIM. Under the initial DIAIM, it was expected that when both non-stereotypic identity cues are present, high G-PIIs will have higher personal and joint negotiation outcomes than low G-PIIs as high G-PIIs can assimilate to both identity cues. However, when stereotypic cues are used, it can be expected that high G-PIIs will experience higher level of conflict, resulting in reactance against both primes (i.e., a reversal of the typical assimilation effect). This means that participants with high G-PII would have low levels of personal and joint negotiation outcomes. Conversely, low G-PIIs will experience lower levels of conflict, resulting in assimilation towards both primes (i.e., a reversal of the typical contrast effect). This means that participants with low G-PII would have high levels of personal and joint negotiation outcomes. Hence, it was specifically predicted that:

*H5: There is a two-way interaction between number of identity cues and the levels of G-PII (blendedness and harmony) in female businesspersons on their personal and joint negotiation outcomes (for those with the business negotiator role).*

*H5a: When both female and business identity cues are present, female businesspersons with low G-PII (reverse of contrast effect) have higher personal and joint negotiation outcomes than those with higher G-PIIs (reverse of assimilation effect) but when only one identity cue (either*

*business or female) is present, female businesspersons will have low personal and joint negotiation outcomes regardless of their levels of G-PII.*

Based on the propositions in Hypothesis 4 and 5 combined, it was expected that the relationships between G-PII, identity cues and negotiation outcomes are mediated by coopetition. Specifically, it was predicted that:

*H6: The two-way interaction between number of identity cues and the level of G-PII on personal and joint negotiation outcomes in mixed-motive negotiations (for those with the business negotiator role) is mediated by coopetition.*

## **Method**

**Participants.** One hundred and nineteen female undergraduate students from SMU who had at least one business major<sup>8</sup> (e.g., finance, marketing, strategy, etc.) were recruited for the study via the university online subject pool system. The inclusion criteria for participants were that they had to either be in the business faculty, which would automatically mean that they would have at least one business major, or in a non-business faculty but with a declared secondary business major. They were either compensated 1 course credit or \$5 in exchange for half an hour of participation in this study. Data from 10 participants were excluded from the analyses as they had low identification on either their female or business identities<sup>9</sup>. The final sample size for analyses was 109 ( $M_{\text{age}} = 21.51$ ,  $SD_{\text{age}} = 1.43$ ). Out of this final sample, seventy five participants were in the

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<sup>8</sup> As Sacharin et al. (2009) also used a sample of female business students found individual differences in G-PII in the sample, it provided some justification for our use of female business students for this study as well.

<sup>9</sup> This is due to the conceptualization behind the construct of identity integration, which focuses on individuals with high identification on the both the identities of concern, and not just for one of the identities (Benet-Martinez et al., 2002; Sacharin et al., 2009). The strengths of identities were measured and those who scored below the midpoint (i.e., 3) for either of the identities were removed for analyses.

business faculty while thirty four participants had a secondary business major. Out of those in the business faculty, twenty five had yet to declare their majors. For the remaining participants, they either had one ( $n = 71$ ) or two business majors ( $n = 13$ ). They either majored in corporate communications ( $n = 12$ ), finance ( $n = 12$ ), strategy ( $n = 7$ ), marketing ( $n = 38$ ), operations ( $n = 11$ ), organizational behavior and human resources ( $n = 16$ ) or quantitative finance ( $n = 1$ ) as their business majors. The average time since declaration of majors was 11.90 months.

**Manipulations.** Participants were randomly assigned to be either exposed to dual identity cues (both female and business identity cues) ( $n = 37$ ), or to female identity cues only ( $n = 37$ ), or business identity cues only ( $n = 35$ ). Participants were also randomly assigned to the role of either a business management representative (i.e., business management role) or a union representative (i.e., non-business management role)

**Procedure.** Participants first went through the spot-the-difference priming task developed in the pilot study in which the identity cues were presented to them. Depending on the condition participants were assigned to, they were either presented with female identity cues only, business identity cues only or both female and business identity cues. Specific details about the spot-the-difference priming task can be found in Appendix 7. After the identity priming task, participants' levels of G-PIL, cooperative and competitive tendency, and strength of their identities were measured. Their personality was also measured as a covariate. Lastly, they went through a mixed-motive negotiation with another participant virtually through an online chat platform called Google Hangouts. Once the negotiation ends, participants filled in the negotiation agreement form and their demographics.

**G-PII Scale (adapted from Benet-Martínez & Haritatos 2005; Huynh, 2009).** Similar to the pilot study, items were adapted from BIIS-1 (Benet-Martínez & Haritatos, 2005) and BIIS-2 (Huynh, 2009). Items were reworded such that they would be applicable to the construct we are interested in examining. Items that did not make sense after rewording were discarded from the measure. There are 10 items in the blendedness subscale (Cronbach's  $\alpha = .64$ )<sup>10</sup> and 22 items in the harmony subscale (Cronbach's  $\alpha = .92$ ). Participants rated these items on a 5-point scale (1 = strongly disagree, 5 = strongly agree). Items included “Both my gender and business identities make me who I am.” in the distance subscale and “I find it difficult to combine my gender and business identities” in the conflict subscale. The items in this scale are listed in Appendix 1. A confirmatory factor analysis of the G-PII scale for its two-factor model structure showed that the model did not have a satisfactory fit,  $\chi^2(463) = 1.92, p < .01$ ; CFI = .70; RMSEA = .092.<sup>11</sup>

**Strength of Identities (adapted from Brown, Condor, Matthews, Wade, & Williams, 1986; Levine & Thompson, 2004).** Similar to the pilot study, participants rated the strength of their female and business identities separately. They were asked to rate the same 10-item scale twice for the two identities (i.e., once for each identity) on a 5-point scale (1=Never, 5=Very often) (Cronbach's  $\alpha_{\text{Female}} = .84$ , Cronbach's  $\alpha_{\text{Business}} = .84$ ). Items included “I am a person who feels strong ties with other females/businesspersons” and “I am a person who identifies with being female/in business”. The items in this scale are listed in Appendix 2. Participants' responses to each of their identities were averaged and those who had average scores lower than the mid-point (i.e., 3) for

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<sup>10</sup> The low Cronbach's  $\alpha$  suggests that there is a higher likelihood of committing a Type II error (Ritter, 2010), which suggests the possibility of failing to reject the null hypothesis. Hence, the results should be interpreted with caution.

<sup>11</sup> The issue of the poor two-factor model fit of the G-PII scale would be further discussed in the general discussion and more details of the factor analysis would be elaborated in Appendix 12.

either of the identities were excluded from analyses in this study. This is due to the conceptualization behind the construct of identity integration, which focuses on individuals with high identification on the identities of concern.

**Cooperative and Competitive Tendency (adapted from Chen et al., 2011).** As the cooperation and competition orientation scale from Chen et al. (2011) seems to measure people's cooperativeness and competitiveness on a trait level and this study aimed to measure participants' cooperative (Cronbach's  $\alpha = .75$ ) and competitive tendency (Cronbach's  $\alpha = .81$ ) at a particular moment, which is on a state level, participants were given a set of instructions that required them to respond to the set of items based on their tendency at the moment (as opposed to a general tendency). The instructions were as follows: "In the upcoming task, you will be required to work with other participants in this session which simulates an organizational or workplace context. Each of you has interests and job outcomes that are important to you (**e.g., personal outcomes**), and there are also joint outcomes that you may want to consider (**e.g., team or organizational outcomes**). These outcomes will be important in determining your performance on this task. More details about this task will be given to you later." In addition, the items used in this study were reworded to reflect state-level cooperative and competitive tendency. Participants were asked to rate themselves in terms of how cooperative and competitive they would be in the upcoming task on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). Items included "It is important to coordinate with the other participants in the task" and "I will feel somewhat disappointed if the other participants perform better than me in the task". The specific items are listed in Appendix 8. Data for 15 participants for this questionnaire was not available for analysis due to computer error. Cooperation

was computed by multiplying the scores for the cooperation and competition composites together, such that only when both cooperation and competition scores were high, the score on cooperation would be high as well.

**Ten-Item Personality Inventory (TIPI; Gosling, Rentfrow, & Swann Jr., 2003).** As Sharma, Bottom and Elfenbein (2013) had found that many dimensions of personality as an individual difference are predictive of negotiation outcomes, the big five factors of personality were measured in this study to control for the possible confounding effects of personality on negotiation outcomes (Cronbach's  $\alpha_{\text{Extraversion}} = .74$ , Cronbach's  $\alpha_{\text{Agreeableness}} = .046$ , Cronbach's  $\alpha_{\text{Conscientiousness}} = .61$ , Cronbach's  $\alpha_{\text{Conscientiousness}} = .47$ , Cronbach's  $\alpha_{\text{Openness}} = .38$ ). Participants rated the extent to which they agree or disagree with ten sets of personality descriptors on a 7-point scale (1=Disagree strongly, 7=Agree Strongly). Items included "Extraverted, enthusiastic" and "Conventional, uncreative". The items in this scale are listed in Appendix 9.

**Mixed-motive Negotiation Task (De Dreu, Giebels & Van de Vilet, 1998; Pruitt & Lewis, 1975).** As this study specifically aimed to examine female businesspersons' negotiations in the workplace, a negotiation task that is in the business context on a management level was used. After removing the data for those whose partners' data was removed due to low identification on female or business identities, there were 55 dyads left for analyses. The female participants were either assigned the role of a business management representative (i.e., business management role) or a union representative (i.e., non-business management role). The aim of the negotiation dyad was to reach an agreement on 4 issues related to the salary and benefits of employees: salary, vacation days, annual raise and medical coverage. Each negotiator in the dyad was given an issue



chart that provided information about the value of their interests which would not be shown the other negotiator in the dyad. The task had integrative potential in that the most valuable issue for management was the least valuable to the union representative and vice versa. Hence, negotiators could have better joint outcomes if they were to make greater concessions on the issues they value less and smaller concessions on issues they value more. In addition, the negotiation was not purely integrative such that there were issues which were equally valued by both the union and the management representative. After reading the information about the negotiation task, participants and their negotiation counterparts went through the negotiation online through Google Hangouts. This is to control for the influence of various confounding variables like physical appearance, familiarity with negotiation counterpart, etc. The specific details of the negotiation task are listed in Appendix 10.

**Negotiation Agreement Form.** Upon the completion of the negotiation, participants and their negotiation counterparts filled in a form that specified if they achieved an agreement in the negotiation and the details of the agreement on the four issues. Based on the agreement achieved between negotiation dyads, their individual and joint negotiation outcomes would be calculated. The specific details of the negotiation task are listed in Appendix 11.

**Demographics.** Similar to the pilot study, participants were asked to provide some demographic information about themselves, including age, ethnicity, country of origin, major and prior business experience. The specific details of the questions are provided in Appendix 6.

## Results

The descriptive statistics for all the measures used would be presented after the descriptions of the measures in Table 2.

**Table 2. Descriptives of measures.**

Measure	Component	<i>M</i>	<i>SD</i>
G-PII	Blendedness	2.63	0.42
	Harmony	2.68	0.52
Strength of identities	Female	4.17	0.46
	Business	3.93	0.47
Cooperative and Competitive Tendency	Cooperation	3.96	0.44
	Competition	3.14	0.71
TIPI	Extraversion	4.40	1.48
	Agreeableness	4.96	1.00
	Conscientiousness	4.73	1.21
	Neuroticism	3.46	1.14
	Openness	5.06	1.09
Negotiation outcomes (Business Management only)	Personal	542.14	92.30
	Joint	979.07	117.23

Prior to the analyses, levels of G-PII (blendedness and harmony) and the covariates (i.e., strength of gender identity, strength of business identity, ethnicity, country of origin<sup>12</sup>, extraversion, agreeableness, openness and neuroticism<sup>13</sup>) were first centered for analyses. Dummy codes were created for the categorical

<sup>12</sup> Ethnicity and country of origin was controlled for to control for cultural differences in cooperative and competitive tendencies.

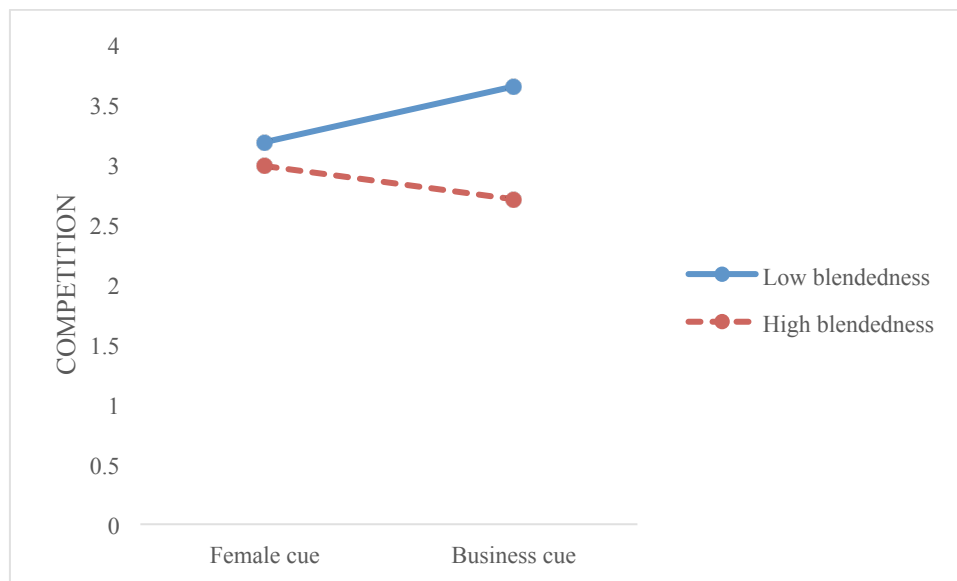
<sup>13</sup> Conscientiousness was not controlled for as Sharma et al. (2013) did not find conscientiousness to be a predictor of negotiation outcomes.

independent variables, which are the type of identity cues presented (female or business) and the number of identity cues (single or dual). Various hierarchical regression analyses were conducted. In the first step of the hierarchical regression analysis, the centered covariates were entered so that they could be controlled for. In the second step, the independent variables were entered. If a two-way interaction was hypothesized, the two-way interaction terms between the independent variables were entered in the third step.

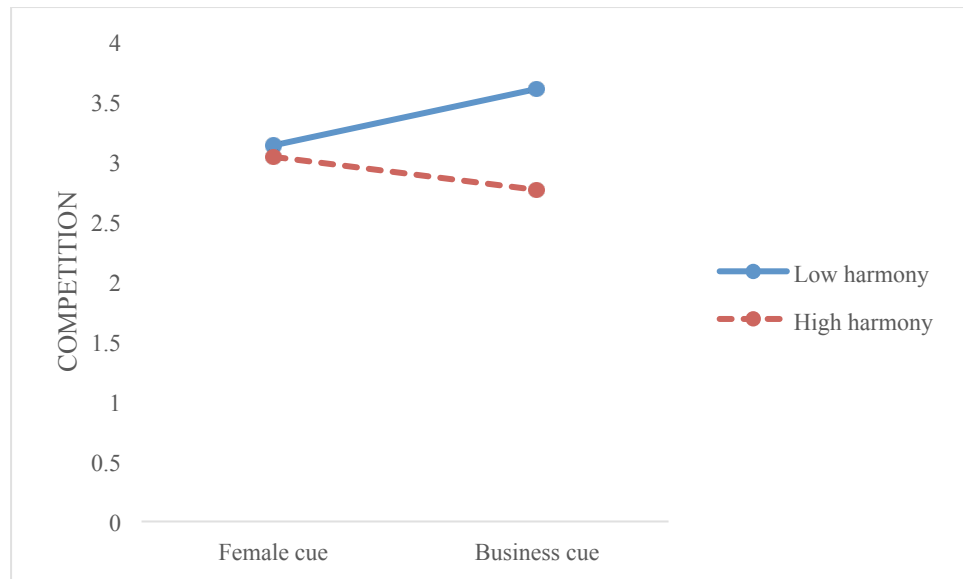
**Hypothesis 2.** In this hypothesis test, the independent variables were levels of G-P11 (blendedness and harmony) and type of identity cues presented (female or business). The dependent variables were cooperation and competition. For the dependent variable of cooperation, there was neither a significant interaction between type of identity cue and levels of blendedness ( $b = .10, t(51) = .45, p = .65$ ) nor between type of identity cue and levels of harmony ( $b = .23, t(51) = 1.24, p = .22$ ) after controlling for the covariates. For the dependent variable of competition, there was a significant interaction between type of identity cue and levels of blendedness ( $b = .88, t(51) = 2.04, p = .047$ ) and a marginally significant interaction between type of identity cue and levels of harmony ( $b = .76, t(51) = 1.94, p = .058$ ) after controlling for the covariates.

Simple slopes analysis for the significant interaction between type of identity cue and blendedness showed that participants with low blendedness were lower in competition when they were faced with a female prime than when they were faced with a business prime, and the difference was marginally significant ( $b = .46, t(51) = 1.84, p = .07$ ). However, participants with high blendedness were higher in competition when they were faced with a female prime than when they were faced with a business prime but the difference was not significant ( $b = -.28,$

$t(51) = -1.14, p = .26$ ). In addition, for the significant interaction between type of identity cue and harmony, it showed that participants with low harmony were lower in competition when they were faced with a female prime than when they were faced with a business prime, and the difference was marginally significant ( $b = .47, t(51) = 1.77, p = .08$ ). However, participants with high harmony were higher in competition when they were faced with a female prime than when they were faced with a business prime but the difference was not significant ( $b = -.28, t(51) = -1.09, p = .28$ ). The patterns of results were consistent from what was being predicted as illustrated in Figure 12 and Figure 13, showing mainly a reverse of contrast effect for those with low blendedness and harmony. Hence, hypothesis 2 was partially supported.



*Figure 12: Interaction between type of identity cue and blendedness on competition*



*Figure 13: Interaction between type of identity cue and harmony on competition*

**Hypothesis 3.** In this hypothesis test, the independent variable was levels of G-PII (blendedness and harmony) and the dependent variables were cooperation and competition. For the dependent variable of cooperation, there was neither a significant main effect of levels of blendedness ( $b = .11$ ,  $t(22) = .41$ ,  $p = .69$ ) nor between the stronger identity and levels of harmony ( $b = .21$ ,  $t(22) = .85$ ,  $p = .40$ ) after controlling for the covariates. However, for the dependent variable of competition, there was a significant main effect of levels of blendedness ( $b = -.80$ ,  $t(22) = -2.23$ ,  $p = .036$ ) and a significant main effect of levels of harmony ( $b = -.80$ ,  $t(22) = -2.26$ ,  $p = .034$ ) after controlling for the covariates. As predicted, participants had lower competition as their levels of blendedness and harmony increased, i.e., participants with higher levels of blendedness and harmony had lower competition than those with lower levels of blendedness and harmony. Hence, hypothesis 3 was partially supported.

**Hypothesis 4.** As this hypothesis and the subsequent ones looked at the comparison between single identity cue conditions (female condition only and business condition only) and dual identity cue condition, it would be important to

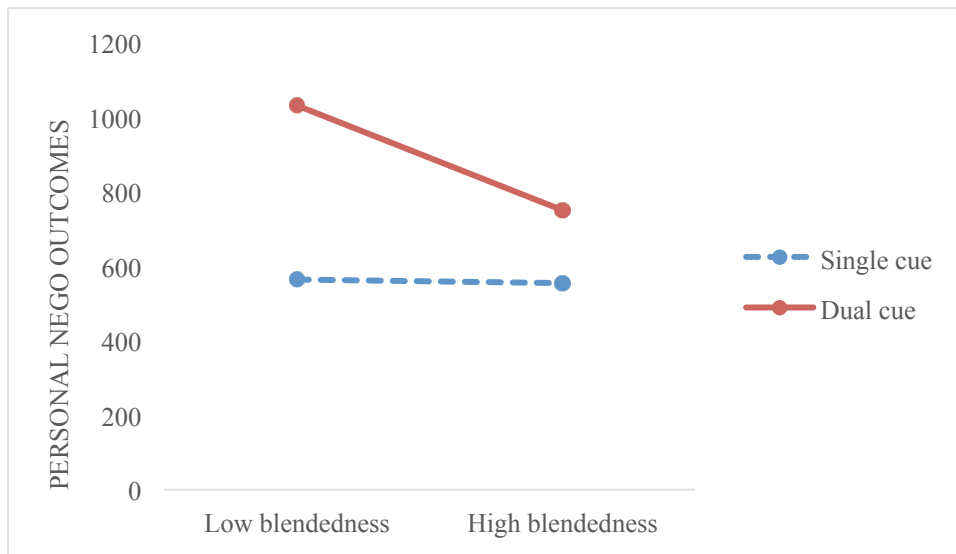
ascertain that there were no differences between having the two types of identity cues used for the single identity cue condition (i.e., female identity cues vs business identity cues) so as to be able to justify the combination of these two conditions together. Three one-way analyses of variance were conducted with the identity cues (female or business) as independent variable and coopetition, individual negotiation outcomes and joint negotiation outcomes as dependent variables. For the dependent variables of coopetition and individual negotiation outcomes, there were no significant differences between the female identity cue condition and the business identity cue condition ( $F_s < .89$ ,  $p > .35$ ). For the dependent variable of joint negotiation outcomes, there was a marginally significant difference between the female identity cue condition ( $M = 983.90$ ,  $SD = 98.90$ ) and the business identity cue condition ( $M = 1045.25$ ,  $SD = 117.08$ ) ( $F(1, 44) = 3.76$ ,  $p = .06$ ). Hence, it can be concluded that the two single identity cue conditions do not differ from each other.

In this hypothesis test, the independent variables were levels of G-PII (blendedness and harmony) and number of identity cues (single or dual). The dependent variable was coopetition. There was neither a significant interaction between the number of identity cues and levels of blendedness ( $b = .10$ ,  $t(81) = .07$ ,  $p = .95$ ) nor between the number of identity cues and levels of harmony ( $b = .42$ ,  $t(81) = .30$ ,  $p = .77$ ) on coopetition after controlling for the covariates. Hence, hypothesis 4 was not supported.

**Hypothesis 5.** In this hypothesis test, the independent variables were levels of G-PII (blendedness and harmony) and number of identity cues (single or dual). For this hypothesis test, two extra covariates were added, which were the G-PII and coopetition levels of the negotiation partner. These covariates were

added as it can be expected that it would affect the negotiation behaviors of the negotiation partners, which would then subsequently affect the main participants' response to the negotiation partners. The dependent variable was personal and joint negotiation outcomes. For the dependent variable of personal negotiation outcomes, there was a significant interaction between the number of identity cues and levels of blendedness ( $b = 292.50$ ,  $t(16) = 2.36$ ,  $p = .031$ ) on personal negotiation outcomes after controlling for the covariates. However, there was no significant interaction between the number of identity cues and levels of harmony ( $b = 127.27$ ,  $t(16) = 1.20$ ,  $p = .25$ ) on personal negotiation outcomes after controlling for the covariates. For the dependent variable of joint negotiation outcomes, there was neither a significant interaction between the number of identity cues and levels of blendedness ( $b = -32.97$ ,  $t(16) = -.21$ ,  $p = .84$ ) nor a significant interaction between the number of identity cues and levels of harmony ( $b = -64.83$ ,  $t(16) = .57$ ,  $p = .17$ ) on joint negotiation outcomes after controlling for the covariates.

Simple slope analysis for the significant interaction between number of identity cues and blendedness showed that participants who were presented with both female and business identity cues (dual identity cue condition) had higher personal negotiation outcomes when they had low blendedness than when they had high blendedness ( $b = 302.56$ ,  $t(16) = 3.16$ ,  $p = .006$ ). However, there were no such differences found for participants with low versus high blendedness when they were presented with only either female or business identity cues (single identity cue condition) ( $b = 10.07$ ,  $t(16) = .13$ ,  $p = .90$ ). The patterns of results were consistent from what was being predicted as illustrated in Figure 14. Hence, hypothesis 5 was partially supported.



*Figure 14: Interaction between type of identity cue and blendedness on personal negotiation outcomes*

**Hypothesis 6.** In this hypothesis test, the independent variables were levels of G-P11 (blendedness and harmony) and number of identity cues (single or dual). For this hypothesis test, two extra covariates were added, which were the G-P11 and coopetition levels of the negotiation partner. The mediator was coopetition and dependent variable was personal and negotiation outcomes. For the dependent variable of personal negotiation outcomes, there was neither a significant moderated mediation model for the blendedness ( $b = -2.17$ ,  $S.E. = 148.41$ ,  $C.I. = [-316.47, 135.75]$ ) nor for harmony ( $b = -10.81$ ,  $S.E. = 88.60$ ,  $C.I. = [-371.56, 77.91]$ ). For the dependent variable of joint negotiation outcomes, there was also neither a significant moderated mediation model for the blendedness ( $b = -11.79$ ,  $S.E. = 344.74$ ,  $C.I. = [-359.72, 401.27]$ ) nor for harmony ( $b = -58.81$ ,  $S.E. = 181.06$ ,  $C.I. = [-361.52, 223.98]$ ). Hence, hypothesis 6 was not supported.



## Discussion

This study was conducted to examine the proposed DIAIM in the earlier conceptual part of the paper, as applied to female businesspersons and an important aspect of their occupation - negotiation. Six hypotheses were proposed and tested to examine the effects of identity cues and female businesspersons' G-PII (blendedness and harmony) on various outcomes related to negotiations – coopetition, personal negotiation outcomes and joint negotiation outcomes. All the hypotheses predicted were however in the reverse direction from the general propositions in the DIAIM as the identity prime task used that was developed in the pilot test seemed to be a stereotype task that caused high G-PIIs to react against the primes and low G-PIIs to assimilate to the primes.

The results showed that there was partial support for hypothesis 2, 3 and 5. Firstly, there was an interaction between type of identity cue (female or business) and blendedness had an effect on competition, which replicated the established assimilation and contrast effect (but in the reverse direction). Secondly, there was a main effect of blendedness and harmony on competition, which supported the simultaneous activation proposition in the DIAIM (but in the reverse direction). Thirdly, there was an interaction between number of identity cues (single or dual) and blendedness had an effect on personal negotiation outcomes (for those who were assigned to the business management negotiator role), which also supported the simultaneous activation proposition in the DIAIM (but in the reverse direction as well). These findings provide some support for propositions laid out in the DIAIM (but in the reverse direction), suggesting that female businesspersons with different levels of G-PII can be affected in different ways by identity primes, either by each type or even in combination. Specifically, when there is only one

type of identity prime present, female businesspersons undergo reverse assimilation (for high G-PIIs) and reverse contrast (for low G-PIIs) effects in response to the stereotypical identity primes. While past researchers had mentioned the possibility of people with multiple social identities activating those identities simultaneously (Cheng et al., 2008; Chiu & Cheng, 2007), the findings in this study is the first set of empirical evidence for this effect, particularly for low G-PIIs. The findings also serve as a first step into the exploration of phenomenon of simultaneous activation of multiple identities. Female businesspersons with high G-P II would experience a reversed assimilation effect and those with low G-P II would experience a reversed contrast effect when they are presented with both stereotypical identity primes. This pattern of results that was reversed from the initial predictions in the DIAIM is likely to be due to the nature of the spot-the-difference task, as mentioned after the pilot test. The primes could be perceived as stereotypes, which could induce an atypical reactance effect in high G-PIIs and an atypical contrast effect in low G-PIIs.

However, it is noteworthy that the significant findings in this study seemed to be driven more by blendedness than by harmony of G-P II. Significant results for both the blendedness and harmony of G-P II were only found under hypothesis 3; for hypothesis 2 and 5, significant results were only found for the component of blendedness. The lack of significant findings for harmony could be due to the nature of the spot-the-difference priming task, which can be said to be a visual perception task. Since Benet-Martinez and Haritatos (2005), as well as Cheng, Lee, Benet-Martinez, and Huynh (2014), mentioned that the blendedness dimension of G-P II is perceptual in nature while the harmony dimension of G-P II is affective in nature, it seems likely that the subfactor of blendedness is more

sensitive to the spot-the-difference priming task than the subfactor of harmony in G-P11. Regardless, the effects for the independent variable of harmony were in the same direction as blendedness, and hence this shows some consistency in the results. Hence, it is likely that the lack of significant findings for the independent variable of harmony was due to the sensitivity of measure and smaller effect size rather than the lack of an actual effect. The inconsistency between the findings for the pilot test and main study would be discussed in the general discussion.

At the same time, it is important to note that there were no significant findings for some of the dependent variables - cooperation, coopetition and joint negotiation outcomes. For the dependent variable of cooperation, the lack of significant results could be because participants did not know who they would be working with and the task they would be working on and hence, they were not motivated to cooperate with others. For the dependent variable of coopetition, the lack of significant findings could be because the measure of coopetition was built upon two factors, which are cooperation and competition, and hence the issue with coopetition could have arose from the issue with cooperation. For the dependent variable of joint negotiation outcomes, the lack of significant findings could be due to the existence of many possible confounding variables that can result from the complex dynamics in negotiations. For example, while we measured and controlled for the G-P11 of the counterparts, their negotiator role was not a business management role and hence the G-P11 measured and the negotiator role were not aligned for meaningful effects to be observed. In addition, other characteristics like personality of the negotiation counterpart might have some influence on relationship between G-P11, identity primes and joint negotiation outcomes.

All in all, the study showed that there was some support for the hypotheses derived from the DIAIM model. Various theoretical and practical implications were gathered and would be discussed in greater detail in the general discussion below.

## **Chapter 5: General Discussion**

### **The DIAIM**

This research first proposed a model termed the DIAIM that predicts how people with multiple social identities behave depending on the levels of integration between their identities and the identity primes they are faced with. The DIAIM captures a relatively new psychological construct called identity integration, which refers to people's perceptions of how their multiple identities are compatible or oppositional (Cheng et al., 2008; Mok & Morris, 2012b; Sacharin et al., 2009; Wallen, et al., 2014), to understand how people with multiple social identities manage their seemingly conflicting identities. In addition, the DIAIM also looks at how people with different levels of identity integration react to the different identity primes to influence behavior. The DIAIM specifies that while people who are exposed to only one identity cue, those who have high identity integration will assimilate to the identity cue while those with low identity integration will contrast against the identity cue. This proposition has been theorized, tested and replicated by various researchers in the field (Benet-Martinez et al., 2002; Cheng et al., 2006; Mok & Morris, 2012a; 2012b; Sacharin et al., 2009). While some researchers had speculated that simultaneous activation of identities when people are exposed to multiple identity cues are plausible (Cheng et al., 2008; Chiu & Cheng, 2007), there are no suggested explanations of the factors and the psychological mechanisms. Hence, one of the main

contributions of the DIAIM is that it conceptualizes how people who are exposed to multiple identities cues will behave. They will assimilate to the multiple identity cues if they have high identity integration as they see the identities as compatible identities (Padilla, 1994; Phinney & Devich-Navarro, 1997; Rotheram-Borus, 1993), will not find any difficulty using either of the identities and can switch freely and quickly between the use of their female and business identities. However, for those with low identity integration, it is unlikely that they will behave in reaction to their multiple identities simultaneously as they often feel that they should choose between one of the identities. It is expected that display psychological reactance against the use of the stronger identity as they may feel the need to contrast against the identity that is stronger in strength to protect the weaker and threatened identity.

The clear delineation of differences in outcomes that can be observed between people who are exposed to different number of identity cues, types of identity cues (for single identity cues) and different levels of identity integration in the DIAIM is also another major contribution of this paper. Combining different sub-areas of research in identity integration and identity activation, the DIAIM can allow people to predict outcomes based on these different parameters.

The DIAIM was applied specifically to understand more about the population of female businesspersons as they have seemingly conflicting gender and professional identities, which can be potentially problematic for them. While the general perception of females is that they are tactful, gentle and quiet, the general perception of people in business management is that they are emotionally stable, aggressive, self-reliant, understanding, helpful, etc. (Schein, 1973). In addition, negotiation behaviors and performance were examined as outcomes as it

has been said that the ability to negotiate is fundamental in people's advancement in their positions and career (Stuhlmacher & Walters, 1999), but at the same time, women seemed to be constrained in negotiations (e.g., Kray, Galinsky & Thompson, 2002; Neu, Graham & Gilly, 1988). Based on the DIAIM, various predictions can be gathered about their negotiation behaviors and outcomes depending on number of identity cues, levels of G-PII, type of identity cue and the stronger identity. The complex psychological phenomenon of how people with multiple with multiple social identities, such as female businesspersons, manage their identities and respond to various types of identity cues could be better understood by applying the DIAIM.

### **The Pilot Test**

Prior to testing the propositions of the DIAIM in terms of negotiation behaviors and outcomes of female businesspersons, a pilot test was carried out to develop an effective identity priming task for female businesspersons. Past researchers who investigated on G-PII (e.g., Cheng et al., 2008; Mok & Morris, 2012b; Sacharin et al., 2009) had used different types of female and professional identity priming and each of them had their limitations. Hence, three different identity priming tasks were developed to examine which of the tasks could better activate the female and business identities and could best replicate the findings in Sacharin et al. (2009). Only one out of the three identity priming tasks (i.e., the spot-the-difference task) revealed significant findings, however, the direction of results was in the reverse direction from those found in Sacharin et al. (2009). Specifically, rather than finding an assimilation effect towards the identity cues for high G-PIIs and a contrast effect against the identity cues for low G-PIIs like in Sacharin et al. (2009), the pilot study revealed a contrast effect towards the

identity cues for high G-PIIs and an assimilation effect against the identity cues for low G-PIIs. As previously discussed, this could be due to the nature of the spot-the-difference task. The female and business pictures that were used as primes can be said to be stereotypic of the identities, and since past research found that those with high II could contrast against the identity primes when the primes are incongruent with their internal associations while those with low II could assimilate to the identity primes when the primes are congruent with their internal associations (Cheng et al., 2006), the stereotypical picture primes in the spot-the-difference task that are congruent with low G-PIIs' internal associations but incongruent with high G-PIIs internal associations could have caused the results to be reverse of what was initially predicted.

According to the findings of the pilot test, important theoretical implications can be drawn from it. Although most studies on II and identity frame switching have consistently shown that high G-PIIs assimilate to the identity primes while low G-PIIs contrast against the identity primes (e.g., Benet-Martinez et al., 2002; Mok & Morris, 2010, Sacharin et al., 2009), this study showed that this may not always be the case. The unique contribution of this study is in that, unlike past studies in the area of II, this study used stereotypical primes and found results that differ from those other studies. As the results of this study corroborates with those in Cheng et al. (2006), it can be said that new knowledge about the psychological mechanisms related to the management of multiple social identities is being unraveled and should be an important point of consideration for future research on II. It also further emphasizes the complexity of the dynamics between multiple social identities and their environment. High IIs may feel that their identities are congruent internally, but they can feel conflicted about the

incongruence between their internal perceptions and external cues. Low IIs may feel that their identities are incongruent internally, but they can feel that there is congruence between their internal perceptions and external cues. This suggests that the choice of identity primes can affect how people react to them and future identity priming studies may need to consider the nature of identity primes used so as to fit the research purposes. Like this study, future research on identity priming should pilot test new identity priming tasks as it is critical to understand how the primes may work first before using them to test the main hypotheses.

One might question if the stereotypes of women and businesspersons would be applicable to Singapore where this study was conducted as it had had a high proportion of women (44%) in the labor force (Ministry of Manpower, 2015). However, this does not suggest that stereotypes do not exist in Singaporean women's environment and can influence them. A recent study by Dimovski, Škerlavaj & Mok (2010) showed that female middle managers in Singapore felt that stereotypes regarding women's professional abilities and commitment to their jobs were obstacles to their advancement at work to some extent. Hence, while Singaporean women's actual roles might have changed and differ from traditional stereotypes of women over time, the traditional stereotypes might still be relevant and influential as stereotypes are known to be persistent (Fernberger, 1948).

In addition, the results suggest some practical implications for female businesspersons or even generally for people with seemingly conflicting multiple social identities in the real world. Stereotypes are commonly present in our daily experience – people may tell us how we should behave in terms of our gender or occupational roles (e.g., sympathetic or assertive), or others around us may also exhibit normal gender or occupational stereotypic behaviors (e.g., being a caring



mother or being a dominant manager). Based on the results of this study, we are beginning to understand how people with seemingly conflicting multiple social identities, like female businesspersons, react to stereotypic cues and how the cues may influence the relationship between their identity integration and behavioral outcomes. The findings in this pilot test suggest to us that these people do not consistently exhibit assimilation towards one of their identity cues if they have high identity integration or consistently exhibit contrast against one of their identity cues if they have low identity integration. Given that non-stereotypic identity cues are also present in our environment, behavioral tendencies can change from time to time depending on the cues present. As complex as the phenomenon may seem, knowing the type of cue present and the level of identity integration of people will allow us to predict their behaviors and outcomes.

### **The Main Study**

A summary of the findings in the main study is shown in Table 3 below.

**Table 3. Summary of findings in main study.**

Hypothesis	Aspect of DIAIM tested	Supported	Variables with significant findings
2	<p>Single identity cues → Frame switching</p> <p>Low G-PII → Contrast against identity cue</p> <p>High G-PII → Assimilate to identity cue</p> <p>Female cue → Competitive</p> <p>Business cue → Cooperative</p> <p>Female cue → Cooperative</p> <p>Business cue → Competitive</p> <p>G-PII x Type of identity cue (Female/Business) → Cooperation &amp; Competition</p>	Partial	IV1: Blendedness IV2: Type of identity cue (female/business) DV: Competition
3	<p>Dual identity cues → Simultaneous Activation</p> <p>Low G-PII → Contrast against stronger identity</p> <p>High G-PII → Assimilate to all identity cues</p> <p>Stronger female identity → Competitive</p> <p>Stronger business identity → Cooperative</p> <p>Assimilate to all identity cues → Cooperative &amp; Competitive</p> <p>G-PII → Cooperation &amp; Competition</p>	Partial	IV: Blendedness and Harmony DV: Competition

*Note: All hypotheses were reversed from the original propositions in the DIAIM*

**Table 3. Summary of findings in main study (Continued).**

Hypothesis	Aspect of DIAIM tested	Supported	Variables with significant findings
4	<p>G-II x Number of identity cues (Single/Dual) -&gt; Cooperation</p>	No	N.A.
5	<p>G-II x Number of identity cues (Single/Dual) -&gt; Personal &amp; Joint negotiation outcomes</p>	Partial	IV1: Blendedness IV2: Type of identity cue (single/dual) DV: Personal negotiation outcomes

*Note: All hypotheses were reversed from the original propositions in the DIAIM*

**Table 3. Summary of findings in main study (Continued).**

Hypothesis	Aspect of DIAIM tested	Supported	Variables with significant findings
6	<p>G-PII x Number of identity cues (Single/Dual) -&gt; Cooperation -&gt; Personal &amp; Joint negotiation outcomes</p>	No	N.A.

*Note: All hypotheses were reversed from the original propositions in the DIAIM*

The main study tested out the propositions made in the DIAIM s for the population of female businesspersons. In particular, the study looked at the effects of number of identity cues, type of identity cues (female or business), strength of identity (female or business) and levels of G-P-II (blendedness or harmony) on various outcomes related to negotiation, including competition, cooperation, personal negotiation outcomes and joint outcomes. The hypotheses made were in the reverse direction from the propositions from the DIAIM due to the use of the spot-the-difference task developed in the pilot study. Support for the DIAIM was mainly found for the effects of the blendedness subscale of G-P-II on competition and negotiation outcomes.

The findings for the effect of blendedness and type of identity cues showed that when only one identity cue was presented to participants on competition, the results supported the robust assimilation and contrast effect found for high versus low G-P-IIs in response to identity primes (in the reverse direction). In addition, the findings for the effect of blendedness and dual identity primes showed that for female businesspersons who have low blendedness may not always suffer from negative negotiation outcomes, especially if they are primed with both female and business identity cues that are stereotypical. Past research on G-P-II suggested that those with low G-P-II may experience psychological reactance to identity primes (Benet-Martinez & Haritatos, 2005; Cheng et al., 2006; Mok & Morris, 2009); however, if the identity cues are stereotypical, those people with low G-P-II may not display this reactance against the identity primes. They may be able to identify and assimilate to stereotypic primes, and hence, assimilate to them instead.

At the same time, if the speculation about the reversed effects from stereotypical identity primes is valid, it implies that, conversely, female businesspersons who have high G-PII can benefit from higher personal negotiation outcomes if they are primed with both female and business identity cues that are non-stereotypical. However, this needs to be further verified in future research, which can be done by having two different priming tasks that differ in terms of stereotypical versus non-stereotypical primes. Together, both findings show some support for the DIAIM.

Although there was some support for the simultaneous activation of identities when dual identity primes were presented, the proposition under the initial DIAIM about the impact of the stronger identity for low G-PIIs was not tested as the hypotheses were reversed with the use of the stereotypic priming task. Hence, future research should aim to examine if the factor of the stronger identity prime does play a role in influencing the relationship between II and outcomes of people with multiple social identities when dual identity primes are present, so as to validate the DIAIM more extensively.

However, the effects of harmony were not observed for most of the hypotheses. The lack of significant findings for harmony could be because the blendedness dimension of G-PII that is perceptual in nature is more sensitive to the effects of the spot-the-difference priming task that requires visual perception. Nonetheless, the patterns of findings for the independent variable of harmony seem to be consistent with those for blendedness. Hence, the measure of harmony might be less sensitive than the measure of blendedness, resulting in a smaller effect size that is harder to detect. This further suggests that another identity priming task can be developed, in which it would affect both the blendedness

and harmony subfactors to the same extent, so that the task can be used in future studies to further examine the effects of blendedness and harmony and the other moderating variables on negotiation behaviors/outcomes.

In addition, the hypotheses related to cooperation, coopetition and joint negotiation outcomes were also not supported. As mentioned previously, the lack of significant findings for cooperation could be due to the fact that participants did not know who they would be working with and the task they would be working on and hence, they were not motivated to cooperate with others. On top of that, the lack of significant findings for coopetition could be caused by the notion that the construct of coopetition is built on top of cooperation (and competition). Lastly, the lack of significant findings for joint negotiation outcomes could be due to the fact that the negotiation counterparts' role was a union representative role, and not a business management role, and hence the G-PH measured and the negotiator role were not aligned for meaningful effects to be found.

Hence, this suggests that it may be worthwhile to conduct field studies on actual working businesspersons so as to be able to examine the DIAIM better. Examining female businesspersons in work settings and their negotiations with their peers, clients, vendors, etc., could be helpful to further examine the effects of G-PH and identity cues on cooperation and coopetition, as they might be motivated to cooperate with them to sustain a long-term working relationship (Ben-Yoav & Pruitt, 1984). In addition, future studies can record the negotiation process and then blind raters can be recruited to code for the negotiators' cooperation, competition and coopetition tendencies during the negotiation process, which might give us more information than just looking at the negotiation outcomes. Lastly, future studies can also look into field negotiations in which both

negotiators both hold a business management role, so as to be able to look at the collective effect of their G-P11 and identity cues on joint negotiation outcomes.

### **Pilot Test & Main Study**

Across both the pilot test and the main study, there are some limitations that should be addressed. Firstly, the studies used a sample of female business students as a proxy of female businesspersons. Although Sacharin et al. (2009) also used a sample of female business students and found support for the hypotheses, using a sample of female business students would still be different from using actual female businesspersons as the lack of actual business experience in female business students might result in a lack in actual experience in overcoming challenges and integrating the two identities in work settings. Hence, future studies should recruit female businesspersons in work settings and replicate the findings for the studies.

Moreover, the lack of actual business experience in female business students might also affect their approach to the negotiation tasks used in the study. The lack of actual experience in business negotiations might influence how they react in the negotiations and hence, affecting the results in this study. In addition, the use of stimulated negotiation tasks might reduce the realism of the task, which could have affected the results of the study. Hence, as previously mentioned, examining female businesspersons in work settings and their real-life negotiations would allow us to better understand if the effects of G-P11 and type of identity cues indeed influence negotiation outcomes for female businesspersons.

Another issue that was observed across both studies was that there was a poor model fit for the two-factor G-P11 scale in a confirmatory factor analysis. Past studies on G-P11 have used different items and scales to measure the



construct of G-PII (Cheng et al., 2008; Mok & Morris, 2012b; Sacharin et al., 2009; Wallen et al., 2014) and there is a lack of a standardized measure of G-PII with good psychometric properties. Such a measure would help advance the research on G-PII as it would make the results more reliable and valid. Hence, future research should aim to address this issue.

In the pilot test, the results were found to be significant for the factor of harmony (and not for blendedness), while in the main study, the results were found to be mainly significant for the factor of blendedness (less for harmony). It might be because some dependent variables are more sensitive to the effects of blendedness while other dependent variables are more sensitive to the effects of harmony. As previously mentioned, past studies on G-PII had used different scales and items to assess G-PII, and while Cheng et al. (2008) used the blendedness subscale only and Sacharin et al. (2009) used the harmony scale only, both studies found positive results. Hence, it is indeed possible that different outcomes are driven by different components of G-PII. This again emphasizes the need for a standardized instrument to measure G-PII for the use in the future studies to determine if different outcomes indeed have different levels of sensitivity to the two components of G-PII. Regardless, it is also important to realize that even though the results might only be significant for one of the components of G-PII, the pattern of results for the other component was also in a similar pattern.

In general, the sets of findings provide practical implications for female businesspersons. Female businesspersons will benefit from the awareness of the results from the studies as they would be able to understand the dynamics between their identities as well as the dynamics between the identity cues that surround

them and their identities. More importantly, female businesspersons can gauge their levels of G-PII and understand how the different identity cues in their environment can affect them. Making use of this knowledge, female businesspersons can then aim to negate any negative outcomes the identity cues may bring upon or enhance any positive outcomes that the identity cues may confer. For example, female businesspersons with high G-PII and are exposed to stereotypical female and business cues can try to counteract the influence of the identity cues in terms of low negotiation outcomes if they have the knowledge of the results of the studies.

In addition, there are practical implications for business organizations as well. Business organizations can seek to find out the G-PII of their female business employees so that they can better predict how they may behave in the workplace. In addition, business organizations will also know how stimuli in the workplace environment can serve as identity cues that will influence female businesspersons' behaviors and outcomes. Furthermore, as past research on identity integration have shown that identity integration is malleable (Cheng & Lee, 2013; Mok & Morris, 2012a), business organizations can also attempt to alter their female businesspersons' levels of G-PII in a way to achieve the outcomes they desire. It is important to consider that based on the results of this study as well as results from past research in II, it is not so clear-cut that a certain level (low or high) of G-PII will definitely bring about benefits for female businesspersons. Female businesspersons with high G-PII may gain advantages in some situations and may incur some disadvantages in other situations, and the same goes for those with low G-PII. Depending on the identity cues present in the situations, female businesspersons with different levels of G-PII may face

different outcomes. Hence, understanding female businesspersons' G-PII and knowing how identity cues may influence them, organizations can situationally alter female businesspersons' G-PII if the combined effects of their trait G-PII and the identity cues combined are not in their favor.

## **Chapter 6: Conclusion**

This paper presented a comprehensive model (DIAIM) that explains how women in business (female businesspersons) may behave and perform in negotiations, which is important for women given that they were said to be constrained in this job aspect. The DIAIM highlights that the integration between the gender and professional identities (G-PII) as well as the identity cues they may face in their environment are two important factors influencing their negotiations. Combining various branches of research on identity and identity integration, the model clearly outlines the psychological processes and outcomes of female businesspersons may experience under different levels of G-PII and different types or combinations of identity cues. An exploratory study of the propositions arising from the DIAIM was conducted and there was some support for the DIAIM, which points to the validity of the DIAIM to some extent. However, due to the nature of the identity priming task, the results were in the opposite direction from what was initially predicted under the DIAIM, but the pattern of results were consistent across some outcome variables. Hence, while the study showed some support for the DIAIM that helps predict negotiation behaviors and outcomes for female businesspersons with different levels of G-PII and exposed to different identity cues, more research has to be done to address the shortcomings of this research and examine the DIAIM in greater depth to allow us to be more

conclusive about the propositions of the DIAIM, so that we can understand, predict and enhance female businesspersons' negotiations.

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## Appendix 1

### G-PH Scale (adapted from Benet-Martínez, 2003; Huynh, 2009)

**Instructions:** Please indicate the extent to which you agree with the statements below about yourself as a female businessperson (i.e., woman with a business degree/major and/or aspires to work in a business environment). Please respond to these statements as to how you feel at this moment. There are no right or wrong answers. Please be open and honest in your responses.

1 (Completely disagree) → 5 (Completely agree)

1. I feel that there are more similarities than differences between my gender and business identities.
2. Both my gender and business identities make me who I am.
3. I cannot ignore the gender or business side of me.
4. I feel like a female and a businessperson at the same time.
5. I relate better to a combined gender-business identity than to a gender or a business identity alone.
6. I feel “female-businessperson” (hyphenated, a mixture of the two).
7. I feel part of a combined gender-business identity.
8. I find it difficult to combine my gender and business identities.
9. I do not blend my gender and business identities.
10. Being a female businessperson is like being divided into two parts.
11. I have a foot in each identity, both gender and business identities.
12. I am simply a female in a business workplace.
13. I keep my gender and business identities separate.
14. I find it easy to harmonize my gender and business identities.
15. I do not find being a female businessperson difficult.
16. I find it easy to have both gender and business identities.
17. I rarely feel conflicted about being a female businessperson.
18. I find it easy to balance both my gender and business identities.
19. I feel that my gender and business identities are complementary.
20. I do not feel trapped between my gender and business identities.
21. I feel torn between my gender and business identities.
22. When I am in a situation that makes my gender identity salient, I cannot relate to my business identity at the same time.
23. It takes a lot of effort to be a female and a businessperson at the same time.
24. Being a female businessperson means having two forces pulling on me at the same time.
25. I feel that my gender and business identities are incompatible.
26. When I am in a business-related situation, I cannot relate to my gender identity at the same time.
27. It is a challenge to be a female and businessperson at the same time.
28. I feel pulled by the gender and business cultural forces in my life.
29. I find it difficult to hold both my gender and professional identities.
30. I am conflicted between the female and business ways of doing things.
31. I feel like someone moving between my gender and business identities.
32. I feel caught between my gender and business identities.

## Appendix 2

### **Strength of Identities (adapted from Brown, Condor, Matthews, Wade, & Williams, 1986; Levine & Thompson, 2004)**

**Instructions:** Please indicate how often these statements about your identities apply to you in general. There are no right or wrong answers. Please be open and honest in your responses.

1 (Never), 2 (Seldom), 3 (Sometimes), 4 (Often), 5 (Very often)

1. I am a person who considers being female important
2. I am a person who identifies with being female
3. I am a person who feels strong ties with other females
4. I am a person who is glad to belong to the female gender
5. I am a person who sees myself as belonging to the female gender
6. I am a person who makes excuses for belonging to the female gender
7. I am a person who tries to hide belonging to the female gender
8. I am a person who feels held back by being female
9. I am a person who is annoyed to say I'm a member of the female gender group
10. I am a person who criticizes the female gender group
11. I am a person who considers being a businessperson important
12. I am a person who identifies with being a businessperson
13. I am a person who feels strong ties with other businesspersons
14. I am a person who is glad to belong to the businesspersons profession
15. I am a person who sees myself as belonging to the businesspersons profession
16. I am a person who makes excuses for belonging to the businesspersons profession
17. I am a person who tries to hide belonging to the businesspersons profession
18. I am a person who feels held back by being a businessperson
19. I am a person who is annoyed to say I'm a member of the businesspersons profession group
20. I am a person who criticizes the businesspersons profession group

## Appendix 3

### Word Search Task

**Instructions:** In this task, you are required to find 10 words from the list below. The words are hidden either horizontally or vertically within the grid of letters. Please circle out the words within the grid as quickly as possible to complete the task.

**Condition: Female identity cues**

Words to be found: *Blouse, Jewellery, Skirt, Heels, Perfume, Bottle, Watch, Photo, Brush, Restaurant*

G	O	A	C	Q	R	H	C	B	L	O	U	S	E	Q
U	F	W	P	C	J	J	A	O	H	C	E	W	Q	V
K	B	R	A	O	J	E	P	T	P	O	K	T	P	L
F	N	M	B	R	U	L	L	T	R	B	T	C	P	S
Y	H	E	J	E	W	E	L	L	E	R	Y	L	E	R
Z	N	P	B	S	C	I	S	E	O	U	R	I	N	U
S	K	I	R	T	W	E	C	L	I	S	Y	E	I	L
R	E	S	W	A	T	R	H	N	E	H	E	E	L	S
S	K	B	R	U	I	W	P	X	B	T	T	T	L	E
T	D	P	E	R	F	U	M	E	O	I	O	I	D	C
P	H	H	T	A	G	P	T	B	O	O	U	S	E	Y
Z	F	O	V	N	A	W	A	T	W	A	T	C	H	N
Y	P	T	O	T	O	U	L	S	E	B	S	G	D	X
I	P	O	R	F	U	M	E	N	K	F	M	O	H	M

**Condition: Business identity cues**

Words to be found: *Finance, Corporation, Profit, Client, Capital, Bottle, Watch, Photo, Brush, Restaurant*

G	O	A	C	Q	R	H	C	B	L	O	U	L	E	Q
U	F	W	P	C	J	J	A	O	H	C	E	W	Q	V
K	I	R	A	O	J	E	P	T	P	O	K	T	P	L
F	N	M	B	R	U	S	H	T	R	B	T	C	P	S
Y	A	E	J	P	W	L	T	B	O	T	T	L	E	R
Z	N	P	B	O	C	I	S	E	F	R	S	I	N	U
S	C	I	R	R	W	E	C	L	I	R	Y	E	I	L
R	E	S	T	A	U	R	A	N	T	H	E	N	L	S
S	K	B	R	T	I	W	P	X	B	T	T	T	L	E
T	D	P	E	I	F	U	I	E	O	I	O	I	D	C
P	H	O	T	O	G	P	T	B	O	O	U	S	E	Y
Z	F	S	V	N	A	W	A	T	C	H	T	C	H	N
Y	P	T	O	T	O	U	L	S	E	B	S	G	D	X
I	P	O	R	F	U	M	E	N	K	F	M	O	H	M

## Appendix 4

### Spot-the-difference Task

**Instructions:** In this task you will be given 8 sets of paired photos, where each pair of photos contains two similar photos with 7 differences between them. You are required to find as many of these differences by circling out these differences on as many sets of the photos as possible. You have 10 minutes to finish this task.

**Condition: Female identity cues**

1.





2.



3.



4.



5.



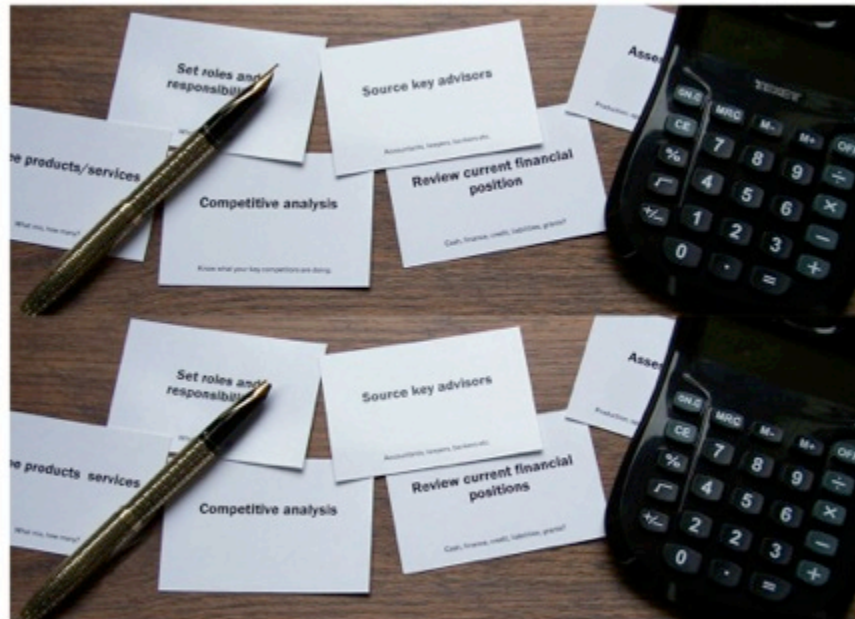


6.



***Condition: Business identity cues***

1.



2.



3.





4.



5.



6.



## Appendix 5

### Schein Descriptive Index (SDI; Schein, 1973)

**Instructions:** We will like to understand your perceptions of female businesspersons. Below you will find a series of descriptive terms commonly used to describe people in general. We would like you to use this list to tell us what you think how female businesspersons will be like. Please rate each word or phrase in terms of how characteristic it may be applicable to female businesspersons.

1 (Not characteristic) → 3 (Neither characteristic nor uncharacteristic) → 5 (Characteristic)

- |  |  |
|--|--|
| 1. Helpful                                 | 27. Self-confident                       |
| 2. Frank                                   | 28. Authoritative                        |
| 3. Grateful                                | 29. Sophisticated                        |
| 4. Desire for friendship                   | 30. Decisive                             |
| 5. Modest                                  | 31. Analytical Ability                   |
| 6. Generous                                | 32. Creative                             |
| 7. Humanitarian values                     | 33. Strong need for achievement          |
| 8. Understanding                           | 34. Intelligent                          |
| 9. Cheerful                                | 35. Competent                            |
| 10. Sympathetic                            | 36. Persistent                           |
| 11. Deceitful                              | 37. Talkative                            |
| 12. Firm                                   | 38. Able to separate ideas from feelings |
| 13. Courteous                              | 39. Skilled in business matters          |
| 14. Direct                                 | 40. Well-informed                        |
| 15. Kind                                   | 41. Ambitious                            |
| 16. Aware of feelings of others            | 42. Feelings not easily hurt             |
| 17. Values pleasant surroundings           | 43. Forceful                             |
| 18. Quarrelsome                            | 44. Self-controlled                      |
| 19. Sentimental                            | 45. Industrious                          |
| 20. Strong need for monetary reward        | 46. High self-regard                     |
| 21. Consistent                             | 47. Logical                              |
| 22. Not comfortable about being aggressive | 48. High need for autonomy               |
| 23. Objective                              | 49. Independent                          |
| 24. Competitive                            | 50. Shy                                  |
| 25. Leadership ability                     | 51. Intuitive                            |
| 26. Vigorous                               | 52. Interested in own appearance         |

## Appendix 6

Age:

Ethnicity:

1. Chinese
2. Malay
3. Indian
4. Others:

Country of origin:

Faculty:

Declared majors:



## Appendix 7

### Spot-the-difference Task

**Instructions:** In this task you will be given 8 sets of paired photos, where each pair of photos contains two similar photos with 7 differences between them. You are required to find as many of these differences by circling out these differences on as many sets of the photos as possible. You have 10 minutes to finish this task.

**Condition: Single identity cue (Female identity cues)**

1.



2.



3.





4.



5.

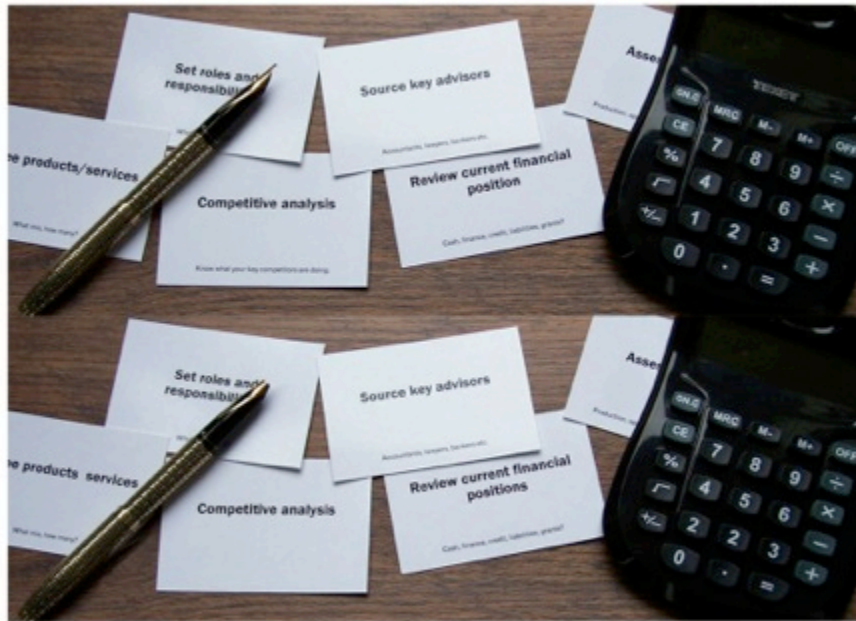


6.



***Condition: Single identity cue (Business identity cues)***

1.





2.



3.



4.



5.





6.



***Condition: Dual identity cues (Female and business identity cues)***

1.



2.





3.



4.



5.



6.



## Appendix 8

### Cooperative and Competitive Tendency (adapted from Chen et al., 2011)

**Instructions:** In the upcoming tasks, you will be required to work with other participants in this session which simulates an organizational or workplace context. Each of you has interests and job outcomes that are important to you (e.g., personal outcomes), and there are also joint outcomes that you may want to consider (e.g., team or organizational outcomes). These outcomes will be important in determining your performance on this task. More details about this task will be given to you later. Below, there will be a list of sentences that serve to help you to think about the strategies you may or may not want to use in the upcoming task. Please read and respond to the sentences carefully, and think about them in an organizational or workplace context as the task simulates an organizational or workplace context.

1 (Strongly disagree) → 5 (Strongly Agree)

1. It is important to coordinate with other participants in the task
2. It will be good for me to work with other participants in the task
3. Working with the other participants will enhance performance in the task
4. It is essential for me to think from the other participants' perspectives in the task
5. It is important to take both my and the other participants' interest into consideration in the task
6. The other participants' help is important to achieve better performance in the task
7. Working with the other participants is important for success in the task in the task
8. I will feel somewhat disappointed if the other participants perform better than me in the task
9. I will feel envious if the other participants get noticed for their performance in the task
10. I will feel lousy if I fail in the task
11. I hope to do better than participants in other sessions even when I work together with other participants in this session for the task
12. My value can only be demonstrated when I perform better than other participants in the task
13. I view contest in the task as an opportunity for me to show that I am better than the other participants



## Appendix 9

**Instructions:** Here are a number of personality traits that may or may not apply to you. Please click on the circle next to each statement to indicate the extent to which you agree or disagree with that statement. You should rate the extent to which the pair of traits applies to you, even if one characteristic applies more strongly than the other.

1 (Disagree strongly, 2 (Disagree moderately), 3 (Disagree a little), 4 (Neither agree nor disagree), 5 (Agree a little), 6 (Agree moderately), 7 (Agree strongly)

1. Extraverted, enthusiastic
2. Critical, quarrelsome
3. Dependable, self-disciplined
4. Anxious, easily upset
5. Open to new experiences, complex
6. Reserved, quiet
7. Sympathetic, warm
8. Disorganized, careless
9. Calm, emotionally stable
10. Conventional, uncreative

## Appendix 10

### Mixed-motive Negotiation Task (De Dreu, Giebels & Van de Vilet, 1998; Pruitt & Lewis, 1975).

**Instructions:** In the next task, you will be randomly paired up with either a male or female participant for a computer-mediated negotiation. One of you will be assigned to take the role of a union representative and the other person will be assigned to take the role of a business management representative. Your aim as a dyad is to reach an agreement on 4 issues: salary, vacation, annual raise, and medical coverage for the employees in your company. Each of you will also be given details about your interests in your role (i.e., what you value for each issue) based on the negotiating points. Do note that your value for each of the issues (salary, vacation, annual raise and medical coverage) can be inferred from the amount of negotiating points assigned to each level of the issue. You should not share the information about your interests in your role. You will have 20 minutes to complete the negotiation, and if there is no agreement at the end of the 20 minutes, the negotiation will be considered to have an impasse.

#### *Issue Chart for Union Representative*

Salary (in Dutch guilders)	Negotiating points	Vacation days (in weeks)	Negotiating points	Annual raise (%)	Negotiating points	Medical coverage (%)	Negotiating points
Union							
70,000	400	3.0	120	15	240	100	60
65,000	300	2.5	90	12	180	80	45
60,000	200	2.0	60	9	120	60	30
55,000	100	1.5	30	6	60	40	15
50,000	0	1.0	0	3	0	20	0

#### *Issue Chart for Business Management Representative*

Salary (in Dutch guilders)	Negotiating points	Vacation days (in weeks)	Negotiating points	Annual raise (%)	Negotiating points	Medical coverage (%)	Negotiating points
Management							
70,000	0	3.0	0	15	0	100	0
65,000	15	2.5	30	12	60	80	100
60,000	30	2.0	60	9	120	60	200
55,000	45	1.5	90	6	180	40	300
50,000	60	1.0	120	3	240	20	400

## Appendix 11

### Negotiation Agreement Form

**Instructions:** Please respond to the following questions with respect to your perspectives about the negotiation task you had just gone through.

Did you and your partner come to an agreement for the negotiation? Yes/No

Please write down the agreement struck between you and your negotiation counterpart in the spaces below:

A. Salary:

B. Vacation Days (in weeks):

C. Annual raise

(%):

D. Medical coverage (%):

## Appendix 12

In this Appendix, the CFA analyses of the G-PII scale used in both the pilot study and the main study would be reported and the potential shortcomings of the scale would be addressed. As mentioned in the introduction, past research on II was primarily on BII and researchers in the field found that BII consists of 2 factors of blendedness and harmony. It was also mentioned in the discussion that research on G-PII has been scarce and different researchers used different scales or items to measure G-PII (Cheng et al., 2008; Mok & Morris, 2012b; Sacharin et al., 2009; Wallen et al., 2014). As past BII measures had been validated in terms of its psychometric properties, the G-PII measure used in this paper was adapted from past measures of BII. Hence the G-PII measure used in this paper was assumed to have similar factor properties as BII, i.e., has a 2-factor structure.

As a recap, separate confirmatory factor analyses of the G-PII scale in both the pilot study and the main study for its two-factor model structure showed that the model did not have a satisfactory fit, (a) pilot study:  $\chi^2 (463) = 2.10, p < .01$ ; CFI = .77; RMSEA = .077, (b) main study:  $\chi^2 (463) = 1.92, p < .01$ ; CFI = .70; RMSEA = .092. One of the possible reasons for the poor fit could be the small sample size in each study. Hence, a supplementary analysis was conducted with the combined data across both studies. The analyses showed that the two-factor model fit improved slightly, but was still unsatisfactory,  $\chi^2 (463) = 2.53, p < .01$ ; CFI = .79; RMSEA = .072. However, it needs to be noted that the one-factor model fit ( $\chi^2 (464) = 3.02, p < .01$ ; CFI = .72; RMSEA = .08) was poorer than the two-factor model fit, although the difference was not significant,  $\chi^2_{\text{diff}} (1) = 0.49, p = .48$ .

Covariances between error terms within the same factor were added to improve model fit,  $\chi^2 (431) = 1.78, p < .01$ ; CFI = .90; RMSEA = .05. A review of the standardized regression weights for each item revealed that one item in the blendedness subscale did not predict the factor well. After removing the item, the two-factor model fit improved slightly,  $\chi^2 (402) = 1.78, p < .01$ ; CFI = .91; RMSEA = .05. A review of the standardized residual covariances revealed that another four items in the blendedness subscale and one item in the harmony subscale had large residual covariances with other items. After removing the items, the two-factor model fit became satisfactory,  $\chi^2 (270) = 1.58, p < .01$ ; CFI = .95; RMSEA = .04. The revised list of items and its corresponding factor is shown in Table 4 below.

**Table 4. Revised G-PH items and factors**

Item no.	Item	Blendedness	Harmony
2	Both my gender and business identities make me who I am.	✓	
5	I relate better to a combined gender-business identity than to a gender or a business identity alone.	✓	
6	I feel “female-businessperson” (hyphenated, a mixture of the two).	✓	
7	I feel part of a combined gender-business identity.	✓	
8	I find it difficult to combine my gender and business identities.		✓
10	Being a female businessperson is like being divided into two parts.		✓
11	I have a foot in each identity, both gender and business identities.	✓	
14	I find it easy to harmonize my gender and business identities.		✓
15	I do not find being a female businessperson difficult.		✓
16	I find it easy to have both gender and business identities.		✓
17	I rarely feel conflicted about being a female businessperson.		✓

**Table 4. Revised G-PH items and factor (Continued).**

Item no.	Item	Blendedness	Harmony
18	I find it easy to balance both my gender and business identities.		✓
19	I feel that my gender and business identities are complementary.		✓
20	I do not feel trapped between my gender and business identities.		✓
21	I feel torn between my gender and business identities.		✓
22	When I am in a situation that makes my gender identity salient, I cannot relate to my business identity at the same time.		✓
23	It takes a lot of effort to be a female and a businessperson at the same time.		✓
24	Being a female businessperson means having two forces pulling on me at the same time.		✓
25	I feel that my gender and business identities are incompatible.		✓
26	When I am in a business-related situation, I cannot relate to my gender identity at the same time.		✓
27	It is a challenge to be a female and businessperson at the same time.		✓
28	I feel pulled by the gender and business cultural forces in my life.		✓
29	I find it difficult to hold both my gender and professional identities.		✓
30	I am conflicted between the female and business ways of doing things.		✓
31	I feel like someone moving between my gender and business identities.		✓
32	I feel caught between my gender and business identities.		✓

As can be seen from Table 4, there is a disproportionate number of items in the blendedness and the harmony subscales after the modification for a two-factor model with satisfactory fit. Hence, to balance out the number of items in the two subscales, items with covariances between the error terms and large standardized residual covariances were removed specifically from the harmony subscale. The remaining items retained a satisfactory fit for a two-factor model,  $\chi^2$

(31) = 1.87,  $p < .01$ ; CFI = .96; RMSEA = .05. The final list of items and its corresponding factor is shown in Table 5 below. From these analyses, future studies in the area of G-PHI can use the items below to measure G-PHI as it has a good two-factor model fit.

**Table 5. Final G-PHI items and factors.**

Item no.	Item	Blendedness	Harmony
2	Both my gender and business identities make me who I am.	✓	
5	I relate better to a combined gender-business identity than to a gender or a business identity alone.	✓	
6	I feel “female-businessperson” (hyphenated, a mixture of the two).	✓	
7	I feel part of a combined gender-business identity.	✓	
10	Being a female businessperson is like being divided into two parts.		✓
11	I have a foot in each identity, both gender and business identities.	✓	
14	I find it easy to harmonize my gender and business identities.		✓
20	I do not feel trapped between my gender and business identities.		✓
25	I feel that my gender and business identities are incompatible.		✓
32	I feel caught between my gender and business identities.		✓